Response to Draft Determination

Household Retail

Issue

We accept that we need to make significant efficiencies in retail, but the Draft Determination sets an unachievable efficiency challenge without appropriate adjustments being made in relation to our representations set out below.

In particular we provide further evidence in respect of:

(i) The use of 2012/13 as the base year for our cost to serve, on the basis that Ofwat determined that the 2013-14 costs appeared inconsistent with both its historic and forecast costs.

For the purposes of calculating the ACTS we consider it more appropriate to use 2013/14 as the base year after making adjustments for the one-off costs incurred in that year. We provided details of these one-off costs in a previous query response and repeat them here for ease of reference. We also set out why 2012/13 is not appropriate to use as the base year. However, if Ofwat choose to continue to do so they should again make adjustments for one-off items (credits) that were incurred in that year.

(ii) The rejection of our bad debt adjustment, notwithstanding that Ofwat had confirmed that our quantitative analysis was ‘sufficient and convincing’ and stating that we provided a ‘good level of evidence’ on our debt prevention and management policies and procedures.

Ofwat has confirmed that we passed their tests for these two areas, but rejected our case based on qualitative comparisons with other companies. We consider that it is inappropriate to give any material weight to the comparison of Southern Water to other companies that have not made any claim. Further, we provide evidence that given some of the judgemental aspects of the accounting for bad debt, using comparative analysis can lead to inappropriate conclusions.

(iii) An error in the treatment of bad debt costs in the case where our bad debt adjustment was rejected. Certain bad debt costs which form part of our special case should be added back to our base operating cost if our bad debt case is rejected. Ofwat has already accepted this as an error and have advised that it will be corrected in the Final Determination.¹

(iv) The rejection of our input price pressure case, notwithstanding that Ofwat has accepted a case from another company, Yorkshire Water², which is based on the same principles. Ofwat has introduced a new test in the Draft Determination, requiring companies to be in the upper quartile in relation to efficiency. We believe this new test is essentially arbitrary and does not take account of the underlying economics of the relationship between input price pressure and efficiency.

¹ CONFIRMED BY CLAIR DANIEL, OUR OFWAT PR14 PORTFOLIO LEAD, BY EMAIL DATED 23rd SEPTEMBER 2014.

² ECONOMIC INSIGHT REPORT ‘RETAIL HH INPUT PRICE PRESSURE AND BENCHMARKING ANALYSIS’ PUBLISHED BY OFWAT ON 26th SEPTEMBER 2014.
We believe our case is reasonable and appropriately reflects our relative efficiency and a challenging pace of catch-up. We include in our evidence both a report from Economic Insight, which has reviewed Ofwat’s approach to retail input price pressure, and further evidence of our effective management practice to controlling costs.

(v) The impact of these interventions, taken in the round, results in a level of efficiency challenge which is too onerous and not achievable without significant risk to our customers. By way of illustration, the outcome of the Draft Determination will require us to take out a full year of costs over the period of five years, equivalent to halving the numbers of our customer service staff by 2019/20. We can find no regulatory precedent for an efficiency challenge of this scale. We include in our evidence a report from Economic Insight that provides a comparison of the efficiency challenge Ofwat has set us using its ACTS approach against a range of regulatory precedents.

(vi) A potential error in Ofwat’s methodology for calculating ACTS and our allowance that we identified during our review of the treatment of the AMP5 legacy depreciation charge. Our review suggests that a company with a legacy depreciation charge higher than the average legacy depreciation charge, in their base year, is unfairly disadvantaged by the current methodology. This arises as a result of Ofwat making an inappropriate deduction for actual legacy depreciation. The implication of our comparatively high legacy depreciation charge is that we are financially penalised in the funding of the household retail plan. We understand that the legacy depreciation charge is funded in the wholesale price control and the funding of this charge should not have any implications on the household retail plan. This does not appear to be the case. We would also suggest that the degree of difference between companies’ legacy depreciation charges brings into question cross company consistency in the approach to allocations of legacy depreciation between the wholesale and retail elements.

We raised a query with Ofwat on 1st October 2014 with regards this matter. A response was received on 2nd October where Ofwat stated “on reflection, we are confident that our methodology is sound in this regard.” We remain of the view that the ACTS calculation does not reflect the intended methodology. We have therefore lodged a further query with Ofwat on 2nd October 2014 and they have confirmed that we will not receive a further response in advance of the deadline for submitting our responses on the Draft Determination to Ofwat. We will continue our dialogue with Ofwat on this matter.
Remedy

In light of the additional evidence provided here, we believe Ofwat should make the following changes in the Final Determination:

- Reinstate 2013/14 as the base year, after excluding one-off cost items arising in that year (+£5.5m increase in allowed cost to serve over AMP6).
- Make an appropriate adjustment for bad debt, in line with the results of our detailed quantitative evidence, which Ofwat has acknowledged is sufficient and convincing (+£12.3m).
- Apply a consistent logic between companies to allow for adjustments for input price pressure and accordingly, make an adjustment based on our detailed quantitative evidence that takes proper account of the relationship between efficiency and input price pressure (+£12.9m).
- Make a correction for the treatment of legacy depreciation in the current ACTS calculation so that companies with higher legacy depreciation than the average are not unreasonably impacted (+£11.8m).
- Ofwat must demonstrate that the subsequent efficiency target is realistic and achievable within the five year price control, without putting at risk our ability to finance our functions or jeopardising service to customers.
2. Retail cases

2.1 Base Year

2.1.1 Overview

In calculating the ACTS Ofwat have used our cost per customer for 2012/13 instead of the 2013/14 figures. The reasons given are:

- Costs were significantly higher in 2013/14 than 2012/13 (£8.5m or 10% higher).
- This increase included one-off costs in 2013/14, which were not representative of on-going costs and therefore should not be reflected in the cost base for the purposes of calculating the ACTS.

Our view is that:

- Ofwat should use 2013/14 as our base year, after adjustment for a number of one-off items.
- Use of the 2012/13 costs significantly understates our underlying on-going costs, due to the existence of one-off credit items in that year. As a result our allowed funding is significantly reduced in the Draft Determination as compared to using an adjusted 2013/14 base year (-£5.5m over AMP6).
- Ofwat should apply a consistent cost base across companies to allow a fair and appropriate comparison to be made. A more appropriate approach would be to make adjustments to the common base year to account for one-off items.

We set out below:

- Explanations for the one-off costs included in our regulatory accounts in both 2012/13 and 2013/14.
- The proposed cost per customer that we consider Ofwat should use in place of the figures they have used in the Draft Determination.

2.1.2 Explanation of one-off costs

We explained the reasons for the higher reported costs in 2013/14 in our response to Ofwat’s query SRN/RET/003, dated 7 July 2014.

“The retail costs significantly increased in 2013/14 compared to the prior year by approx. £8.5m (in 2012/13 prices), mainly due to some specific one-off expenses that have been incurred in 2013/14.

The Customer Engagement directorate undertook an intensive customer focussed training programme in order to improve service and the company SIM score which was undertaken over the course of 2013/14 at of cost of approx. £2.6m. The training is now complete but underpins our plans for continued improvement in this area.

In addition to the above, the 2012/13 results included a pension curtailment benefit of £2.6m which was a one off benefit not seen in 2013/14.

There has also been a focus on cash forecasting as this is an area that has become more complex as we have moved through the Universal Metering Programme which had added approx. £0.3m to costs within 2013/14."
In addition to the above one-off costs, the total bad debt provision charge for the business increased in 2013/14 compared to the prior year and this, along with a movement in the allocation charge between household and non-household, being more heavily weighted to the household customers, have further increased costs when compared to the prior year by approx. £4m.

There was also investment in some key functions within the directorate including setting up a Continuous Improvement Team and strengthening the Analytics and Reporting Team at a cost of approx. £0.6m.

When comparing the costs for 2014/15 to the prior year as the reduction for the one off costs mentioned above, there are also some key initiatives and projects that will begin to deliver benefits in 2014/15 and through AMP6. This includes the upgrade of our customer billing system which will enable us to offer customers improved online services and reduce our average handling time per call.

We also have a number of initiatives in place to improve debt recovery and creation of bad debt including offering a support tariff to vulnerable customers.

Table 1 below reflects the impact of making adjustments in 2012/13 and 2013/14 for the relevant one-off items to ‘normalise’ both years.

**Table 1: 2013/14 and 2012/13 base year adjustments**

<table>
<thead>
<tr>
<th></th>
<th>2012/13 £m</th>
<th>2013/14 £m</th>
<th>Difference £m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Submitted R3 Household Retail Opex Line 1</td>
<td>52.23</td>
<td>60.73</td>
<td>8.50</td>
</tr>
<tr>
<td>Pension curtailment – one-off pension credit arising from pension scheme changes.</td>
<td>2.59</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bad debt charge decrease – arising from one-off impact of change in accounting methodology on the treatment of court costs in relation to the pursuit of outstanding debt.</td>
<td>3.46</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer training programme – one off incremental training programme to support step change in customer service capability and process, as opposed to normal BAU training</td>
<td></td>
<td>-2.60</td>
<td></td>
</tr>
<tr>
<td>Cash forecasting model – one-off investment in tools.</td>
<td></td>
<td>-0.30</td>
<td></td>
</tr>
<tr>
<td>Customer strategy investment – recurring spend post 2012/13 in relation to investment in continuous improvement and analytics capability.</td>
<td>0.60</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Adjusted Household Retail Opex</strong></td>
<td><strong>58.88</strong></td>
<td><strong>57.83</strong></td>
<td><strong>-0.94</strong></td>
</tr>
</tbody>
</table>

Both years include material one-off exceptional items, which should be taken into account in assessing the appropriate cost base. 2012/13 also excludes additional recurring costs associated with investment in improved analytical capability and delivery of further continuous improvement.

Ofwat should revert back to using 2013/14 as the base year after making the appropriate adjustments set out above. Accordingly, the cost base in Line 1 of Table R3 should be reduced from £60.7m to £57.8m.
2.1.3 Implications on cost per customer

The impact on the cost per customer, using our 2013/14 submitted data, is set out in Table 2 below.

**Table 2: Proposed revision to cost per customer**

<table>
<thead>
<tr>
<th></th>
<th>2013/14 Draft Determination £/customer</th>
<th>2013/14 Revised Cost £/customer</th>
<th>Difference £m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unmetered single service customers</td>
<td>26.48</td>
<td>29.54</td>
<td>+£3.06</td>
</tr>
<tr>
<td>Unmetered water and wastewater customers</td>
<td>34.42</td>
<td>38.40</td>
<td>+£3.98</td>
</tr>
<tr>
<td>Metered water only customers</td>
<td>33.88</td>
<td>36.02</td>
<td>+£2.14</td>
</tr>
<tr>
<td>Metered wastewater customers only</td>
<td>31.18</td>
<td>34.27</td>
<td>+£3.09</td>
</tr>
<tr>
<td>Metered water and wastewater customers</td>
<td>40.30</td>
<td>43.18</td>
<td>+£2.88</td>
</tr>
</tbody>
</table>
2.2 Bad debt adjustment

2.2.1 Overview

Table 3: Ofwat assessment of SWS bad debt adjustment

<table>
<thead>
<tr>
<th>Adjustment</th>
<th>Total value over 2015/20 £m</th>
<th>Materiality</th>
<th>Beyond efficient management control</th>
<th>Impact company in materially different way</th>
<th>Value of adjustment appropriate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bad debt</td>
<td>12.3</td>
<td>Pass</td>
<td>Pass</td>
<td>Fail</td>
<td>Fail</td>
</tr>
</tbody>
</table>

Ofwat rejected our bad debt adjustment case after considering evidence ‘in the round’. Ofwat’s position, as set out in the Draft Determination is that:

- Our modelling analysis and evidence is sufficient and convincing to demonstrate that deprivation and bill size have a material impact on the bad debt component of our retail costs. Accordingly, we pass Ofwat’s first test.
- Ofwat agree that we provided a good level of evidence on our debt prevention and management policies and, although the evidence suggests the existence of some gaps and room for improvement, Ofwat has confirmed that we have passed its test on management practice.\(^3\)
- We have not provided sufficient evidence to demonstrate that bills affect us in a materially different way to other companies. This is based solely on qualitative comparisons with Wessex Water, Anglian Water and South West Water.

Our view is that:

- Ofwat has rejected our claim not based on the evidence presented, but on the actions of other companies. We consider that excessive weight has been given to this ad hoc comparison, given the positive findings on other aspects of our case. In particular, given the inherent degree of judgement involved in accounting for bad debt, there are good reasons to be cautious about such comparisons. Such comparisons of specific areas, also fail to account for companies’ consideration of the price review as a whole.
- Notwithstanding the fact that Ofwat confirmed that we passed the test on management practices, its conclusion that there are some gaps and room for improvement is based on a mis-reading of our evidence, which referred to continuous improvement being built into our processes and was not intended to imply shortcomings.
- Given that we have passed both of Ofwat’s key tests, we believe it is reasonable for Ofwat to accept the whole of our proposed bad debt adjustment.

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\(^3\) CONFIRMED BY CLAIR DANIEL, OUR OFWAT PR14 PORTFOLIO LEAD, BY EMAIL DATED 26TH SEPTEMBER 2014.
We set out below:

- Why it is inappropriate to reject our case on the basis of the actions of other companies. In particular, we highlight the degree of ambiguity in the reporting of bad debt costs across companies, which can materially distort cross-company comparisons.
- Further evidence on our effective debt prevention and management policies and procedures. This is provided to address the view that, notwithstanding Ofwat’s confirmation that we have passed the relevant test, there is a ‘gap’ in our practices.

2.2.2 Comparison with other companies

Ofwat’s draft determination and subsequent query responses make clear that, despite passing two key assessment tests, we failed a third test which was predicated on a comparison with Anglian Water and Wessex Water.

The conclusion drawn by Ofwat is that (i) because these companies have similar bill levels and income deprivation to us, but have not submitted bad debt cases; and (ii) because they have lower doubtful debt charges, our case should be rejected in full.

We believe it is inappropriate for Ofwat to give this degree of weight to a comparison based on the actions of other companies, rather than the detailed evidence presented to it. Such comparisons with other companies are inherently problematic for a number of reasons:

- It is inconsistent with Ofwat accepting that we have robust quantitative evidence that our levels of bad debt are materially impacted by our bill size and deprivation.
- It is inconsistent with Ofwat’s acknowledgement that our management practices in this area are robust and in line with best practice.
- It ignores the likely differences in accounting practices between companies, which we are not able to verify, and the degree of accounting judgement in this area.
- We are not able to fully rebut Ofwat’s position because we do not have sufficient detailed information regarding Anglian Water and Wessex Water in relation to their detailed bad debt practices and accounting methodology.
- It ignores the fact that companies that are otherwise below the ACTS (which includes both Anglian and Wessex) have little incentive under Ofwat’s methodology to make a special case. By looking at a specific area in isolation, it also overlooks the fact that all companies will make commercial decisions in the context of the price control as a whole.

We have undertaken further work to understand the differences arising in the bad debt charge between companies and more specifically between ourselves, Anglian Water and Wessex Water.

The conclusions from this review are set out below. From this it is clear that, given the amount of uncertainty and the number of judgements involved in calculating bad debt provisions and therefore determining bad debt charges, it would not be reasonable to use a cross-company comparison as the principal factor in rejecting our bad debt case.
• **Bad debt provision accounting policies:**

  o Statements of accounting policy in the Regulatory Accounts relevant to this area are not particularly informative. Ofwat rely on companies, and their external auditors, to calculate and approve respectively appropriate bad debt policies, calculations and provisions. Neither we nor Ofwat, have seen the support for the companies' calculations and the underpinning calculations that have been applied, and other relevant factors, such as customer history.

  o Comparing these metrics on the basis of published information is notoriously difficult partly for these reasons and also as a result of different revenue recognition judgements.

  o An example of this would be with regards to the use of customer segmentation for the purposes of calculating the bad debt charge. In this case we do not know how Anglian Water or Wessex Water take account of former customers and current customers that have not history of making a payment. Different treatment of these customer segments, and others could lead to systematically lower provisions and result in a lower bad debt charge when compared to our approach.

  o Another example is the provisioning for bad and doubtful debt made with regards to the measured income accrual. There is no information in the Regulatory Accounts as to either Anglian Water’s or Wessex Water’s policy with regards to this matter. Accordingly, we cannot assess the extent or basis upon which these companies make provisions in this area and this makes cross company comparisons difficult. Again, certain decisions in this area could lead to a systematically lower provision and result in a lower bad debt charge when compared to our approach. The size of this accrual varies significantly between companies.

• **Consistency of comparison:**

  o Different companies have adopted different approaches to the completion of certain elements of the Regulatory Accounts, in terms of accounting disclosure, which means that meaningful comparison is either not possible or open to misinterpretation.

  o The examples below support how the lack of disclosure, or the variation in accounting presentation, can add to the difficulty of using reported financial information to make company comparisons:

    ▪ Wessex Water has reported revenue outstanding as the same as trade debt. These figures are therefore net of the bad debt provision rather than the value of the revenue outstanding.

    ▪ Wessex Water’s note on the measured income accrual does not highlight how much of it is associated with household, non-household or trade effluent customers.

    ▪ The treatment of payments received in advance of billing is different between companies. We net-off these receipts against the measured income accrual, in debtors, whilst other companies reflect such receipts in creditors.

• **Conflicting information:**

  o It is clear there is conflicting information available around company performance which again brings into question the validity of assigning
so much weight to cross company comparison. For example, if you consider the KPI of the metric ‘Days Sales Outstanding’, which is a typical performance measure for cash collection performance, where we are in the upper quartile, this would indicate that we were a strong performer. We have been in the top quartile in respect of this metric for the last three years. We set out these details in our June submission, in Chapter 8, Retail costs (page 13-15). Indeed, Anglian Water and Wessex Water were poorer performers in relation to this metric. Recognising the points already set out above on accounting policies and estimates and consistency of disclosure, this matter adds further weight to why Ofwat should be guarded in respect of lending too much weight to cross company comparison in this subjective area.

There are indeed more operationally related factors that also make the use of cross company comparisons subject to caution in determining how relatively efficient a company is.

An example that illustrates this is in relation to customer metering where the different pace at which companies have implemented their metering programme, and the timing of implementation, is likely to have different impact on their levels of bad debt. This is not necessarily a reflection of efficient or inefficient practice. When compared to Wessex Water and Anglian Water, our level of penetration of metered customers during AMP5 increased at a significantly higher rate than these companies. Our penetration increased by circa 40% (from 40% to 80%) in five years. For Anglian Water a similar increase took circa 15 years. For Wessex Water they increased from 25% to 50% in circa 15 years. The step change in our metering penetration was incurred during a period of relative economic hardship. Furthermore, our programme is a compulsory programme, whereas we are unclear whether the other companies’ programmes are compulsory or optional, which again can influence payment behaviour. The consequence is that arguably the environment we are working in is more challenging and therefore adversely impacting our relative performance. This is not a reflection of inefficient debt prevention and management policies and we note that Ofwat have already recognised that we have passed the test on management practice, and therefore we should not be adversely impacted as a result. Indeed, we have put into place reasonable transition arrangements to support the customer through this change.

2.2.3 Debt prevention and management policies and procedures

In our original Business Plan and our June update, we provided detailed evidence on or management practices and processes in the area of bad debt. This clearly demonstrated that these are in line with established best practice, both as compared with Ofwat’s criteria and other companies’ performance.

This evidence included:

- A detailed self-assessment of our debt prevention and management policies and practices.
- A review of our position against the assessment criteria used in Ofwat’s assessment of Thames Water’s IDoK submission.
- A benchmarking exercise, undertaken by Deloitte, which compared our working capital practices and performance against best practice from both within and outside of the water industry.

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4 DRAFT DETERMINATION OF THAMES WATER IDOK APPLICATION DATED 16TH OCTOBER 2014.
Details of our continuous improvement plan, which included activities that improve our position.

This information is set out in our December Business Plan submission (Annex 20 - Retail household costs, together with Supporting Documents 20.1 to 20.6) and our June submission (Chapter 8 Retail cost, together with supporting information as set out in associated appendices).

2.2.3.1 Further evidence of our approach to effective debt prevention

We set out in Annex 1 our methodical and disciplined approach to cost management in our retail business. We demonstrate the direct application of this cost management framework to the area of bad debt.

2.2.4 Error in treatment of bad debt costs

Ofwat has made an error in the treatment of bad debt costs, given the rejection of our bad debt case in the Draft Determination. Certain bad debt costs which were excluded from our base operating costs and included within the bad debt case, should have been added back before calculating the allowed revenues.

Ofwat has confirmed the error and made clear that, if they do not accept our bad debt case in the Final Determination, they will make the necessary corrections in the Final Determination.

On 23rd September, Clair Daniel, our PR14 Portfolio Lead, confirmed by email that “we (Ofwat) agree that we have not added your bad debt costs to general operating expenditure for year 2013-14 (for which we used your 2012-13 figures as explained in your draft determination) when modelling your retail household price limits. This was an error and it will be corrected in your final determination”.

If our bad debt case is accepted, which we believe it should be based on the evidence provided, no adjustment is necessary.

2.2.5 Conclusion

Ofwat has accepted that our quantitative evidence robustly demonstrates that our bad debt charge is adversely impacted by our bill size. It has also accepted that our debt management processes are consistent with its own assessment of best practice and we have provided more evidence here to address the view that there are gaps in the process.

Ofwat’s rejection of our case on the basis of an ad hoc comparison with two other companies is unreasonable and inconsistent with its conclusions on the other aspects of our evidence. Furthermore, we have shown here that there are good reasons to treat such comparisons with caution, given the inherent degree of judgement in accounting for bad debt, the incentives for companies that are below the ACTS to make a case and those companies’ wider considerations of the price control as a whole.

We therefore believe that Ofwat should make an appropriate adjustment for bad debt, in line with the results of our detailed quantitative evidence, which it has acknowledged is sufficient and convincing.
2.3 Input price pressure

Table 4: Ofwat assessment of SWS input price pressure claim

<table>
<thead>
<tr>
<th>Adjustment</th>
<th>Total value over 2015/20 £m</th>
<th>Materiality</th>
<th>Beyond efficient management control</th>
<th>Impact company in materially different way</th>
<th>Value of adjustment appropriate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input price pressure</td>
<td>12.9</td>
<td>Pass</td>
<td>Fail</td>
<td>Efficiency benchmarking evidence: Fail</td>
<td>Upper Quartile: Fail</td>
</tr>
</tbody>
</table>

Ofwat rejected our input price pressure case in the draft determination on the basis that:

- We have not provided sufficient and convincing evidence that we manage our costs efficiently, such that future cost increases are outside of efficient management control.
- We have not provided a convincing argument that we are impacted in a materially different way to other companies, in relation to our argument that the level of catch-up efficiency is excessive.
- The method of calculation is not considered appropriate.

Our view is that:

- Ofwat’s rejection of the input price pressure case included in our June business plan update is inconsistent with the approach it has taken for other companies. Our methodology was based on advice from Economic Insight, who prepared the case, and used the same methodology, for Yorkshire Water which had its case accepted.
- Our updated case properly recognised and took account of our relative efficiency and the fundamental link between input price pressure and efficiency, which Ofwat’s methodology statement appears to recognise. This was a change from the adjustment included in our December Business Plan, which was based on the totality of AMP6 forecast input price pressure. As a result, we have accepted that we must be expected to absorb a significant degree of input price pressure.
- Ofwat has introduced an additional assessment criterion in the draft determination, making a binary distinction between companies which are upper quartile on their efficiency assessment and those which are not. This binary distinction is inconsistent with the underlying economics, which shows that the relationship between efficiency and input price pressure is a continuum.

We set out below:

- A summary of Economic Insight’s review of Ofwat’s approach to retail input price pressure. This looks at Ofwat’s approach both generally for the industry, and specifically with respect to our input price pressure claim. Economic Insight were engaged to review Ofwat’s approach because they had advised
both us and Yorkshire Water, whose claim has been allowed. Their full report is in Annex 2.

- Further evidence of our cost management processes and procedures, to address Ofwat’s criticism that we did not provide sufficient and convincing evidence that we manage our costs efficiently.

2.3.1 A review of Ofwat’s approach to retail input price pressure – an independent review

Following the draft determination, we re-engaged Economic Insight to review Ofwat’s approach to input price pressure. Economic Insight were selected because they had advised both us and Yorkshire Water, whose claim has been allowed.

Their key findings from this review are that:

- From an economic perspective, the issues of inflationary pressure and efficiency are intrinsically linked, a point recognised by Ofwat in its price review methodology statement.
- This link is “non-binary” and the two should be treated as a continuum. Ofwat’s binary treatment assumes, without evidence or testing that the extent of inefficiency is sufficient so that all inflation can be absorbed.
- Consideration of the appropriate margin should reflect who is bearing inflation risk. This is not reflected in Ofwat’s assessment of margins in comparator sectors.
- From an evidential point of view, the case presented in our June business plan update met or exceeded the evidential threshold applied by the Competition Commission in the Bristol Water case.

In our December business plan we included a case for input price pressure based on the totality of forecast input price pressure over the AMP6 period. For our June update, we recognised that economically there is an intrinsic link between input price pressure and relative efficiency and adjusted our claim to reflect our relative inefficiency, with respect to the ACTS. This revised case was based on advice from Economic Insight, who also prepared a case for Yorkshire Water, using the same methodology and reflecting the same underlying economic logic. Yorkshire Water’s case was accepted in its Draft Determination by Ofwat whereas Southern Water’s case was not. This was principally based on a view that Southern Water was not an efficient retailer, on the basis that it was not within the upper quartile of companies.

In light of this apparent inconsistency in approach we asked Economic Insight to revisit Ofwat’s approach in this area and the degree to which the approach was consistent with economic logic that underpinned the case that was made for both Yorkshire Water and Southern Water.

Economic Insight’s approach is based on the fundamental point that the issues of inflationary pressure and efficiency are intrinsically linked. This reflects the underlying economics of competitive markets – which Ofwat’s regulation is designed to mimic. That is, there is a clear relationship between the ability of a firm to absorb input price pressure and its efficiency. Put simply, a firm that is perfectly efficient will not be able to absorb input price pressure and this will be passed in to prices. In contrast, a less efficient firm will be constrained in its ability to raise prices above the market price. It will of necessity be required to absorb more input price pressure by becoming more efficient.

Economic Insight’s detailed review of Ofwat’s statements in the lead up to the draft determinations, clearly demonstrates that Ofwat recognises this intrinsic linkage. For
example, in its Future Price Limits consultation “where retail costs are not linked to RPI, it may not be appropriate to assume retail cost efficiencies in the price limit”.

Economic Insight make clear that, if one accepts that there is a linkage between input price pressure and inflation, as Ofwat do, then “this link is non-binary”. They note that Ofwat’s approach of not even considering claims from companies that are not assessed as upper quartile implicitly assumes that “the extent of inefficiency is sufficient so that all inflation can be absorbed”. This is not tested within Ofwat’s approach, but is reflected in Southern Water’s analysis.

They also note that, in contrast to Ofwat’s suggestion that firms in competitive markets are not “protected from inflation” that in fact, both the level and nature of input price pressure/inflation can vary considerably. It is demonstrably not the case, as Ofwat’s statements imply, that companies in the most competitive sectors are unable to pass any input price pressure to customers, whereas there is more cost pass-through in less competitive sectors.

Economic Insight note that the assessment of the appropriate margin on retail activities must be made in the context of whether inflationary risk is, or is not included. Ofwat’s approach effectively passes inflationary risk to equity, but in assessing the EBIT margin Ofwat does not appear to have taken such matters into consideration. Indeed, in the comparator industries examined by PwC for Ofwat, equity investors did not bear inflation risk.

Finally, Economic Insight reviewed the level of evidence provided to support our case against the evidential standard applied by the Competition Commission in the Bristol Water case, which considered a number of related issues. They find that the level of evidence presented in our June business plan updated met, or in most cases exceeded the threshold applied by the CC in that case.

On the basis of their review, Economic Insight concludes that:

- There is an internal inconsistency in Ofwat’s approach, which recognises the connection between inflation and efficiency but fails to treat these as continuums.
- It is critical that inflationary pressure is assessed for all companies irrespective of their relative efficiency – and that the degree of savings reflects the relationship between relative efficiency and inflation.
- That there is no evidence to suggest that companies above the upper quartile should be able to absorb all input price pressure.
- There is a potential regulatory failure risk inherent in Ofwat’s approach – the consequences of ignoring inflationary pressure such that retailers inadvertently become loss making is at least as great as those associated with allowing too much inflationary pressure.

2.3.2 Further evidence of our effective cost management processes and procedures

In section 2.2.2.1 we refer to Annex 1 where we set out the methodical and disciplined approach which we apply to cost management in our retail business. The approach consists of ten steps focused on achieving a balance between delivering the highest value for customers and minimising the cost of an activity.

We provide further examples in Annex 1 of the specific application of this framework to key retail cost categories other than bad debt, for example, customer service and metering. This evidence addresses Ofwat’s challenge that we had not provided
sufficient and convincing evidence on our management practices, such that future cost increases are (partly) outside of efficient management control.

2.3.3 Conclusion

Ofwat has rejected our case for an adjustment in respect of input price pressure despite accepting a case from Yorkshire Water based on the same methodology and approach. It has introduced a new test in the Draft Determination which requires companies to be upper quartile on efficiency, before they will even consider a case for an input price pressure adjustment. We have shown clearly that such a binary distinction does not properly reflect the underlying link between input price pressure and efficiency, which is a continuum.

We have also provided further detailed evidence on our robust framework for cost management in our retail business, with concrete examples of the application of this framework to the key retail cost areas. Taken together with the evidence in our December business plan and June update, we believe this demonstrates that we are effectively and efficiently managing costs in our retail business.

We believe the case presented in our June business plan update is reasonable and appropriately reflects our relative efficiency and a challenging pace of catch-up. Ofwat should apply a consistent logic between companies and allow for adjustments for input price pressure based on our detailed quantitative evidence.
2.4 Regulatory precedent for opex efficiency targets

When taken together, the impact of Ofwat’s interventions in our retail plan results in a level of efficiency challenge which is, in our view, too onerous and puts at risk services to customers and our ability to finance our retail functions. We have considered whether there is any regulatory precedent for an efficiency target of the scale implied by our Draft Determination. Our view is that:

- We can find no evidence of a regulatory precedent for such a significant efficiency challenge. The implied £56m cost challenge is equivalent to taking out a full year’s costs in the space of five years.
- The Draft Determination, unadjusted, would require us to deliver annual cost savings of 7.7% pa over each year of AMP6. Based on a review by Economic Insight of other regulatory determinations, efficiency targets of this level are without precedent.

We set out below a summary of Economic Insight’s review of regulatory precedents for efficiency targets. The full report is in Annex 3.

2.4.1 Regulatory precedent for opex efficiency targets – an independent review

Ofwat’s efficiency target effectively requires Southern Water to reduce its cost base by £56m or 19%, which we do not believe is achievable and is in our experience beyond any efficiency target that has been set by a regulator previously. To test this we asked Economic Insight to review the evidence from a range of regulatory determinations.

Economic Insight calculated that the savings that we are being asked to make equate to an annual target of 7.7% pa (cumulative) over the AMP6 period, based on the 2012/13 base year in the draft determination, or 8.6% using the corrected base year (2013/14 adjusted for one-off costs). What is more, they note that these savings are front-loaded, so that in the first three years of the price control, savings in excess of 10% pa are required.

To examine the reasonableness of these assumptions Economic Insight looked at evidence from a total of 18 price determinations, across all regulated sectors. This concluded that the average pa efficiency saving required was 2.9% and the upper quartile of the range was 3.1%. In only one case out of eighteen was the efficiency target in any way close to Ofwat’s draft determination proposal. This was set by NIAUR for Northern Ireland Water (NIW) in 2010 at 7.0% pa. However, they note that NIW is a publically owned company that had not been subject to shareholder pressure to achieve greater efficiency over 25 years as all English water companies have and that the regulator explicitly allowed for inflation in setting the target.

Economic Insight goes on to examine a number of cases of the level of efficiency savings actually achieved and planned, based on published evidence. In the case of the water sector in England & Wales the Competition Commission noted that only two of 21 companies had achieved Ofwat’s PR04 efficiency targets, which were 2.4% pa on average. Similarly evidence from the NIAUR shows that savings achieved by NIW between 2009/10 and 2012/13 are 3.3%pa.

The only example examined where savings that are anywhere close to those being proposed for Southern are those reported by WICS as being realised by Business Stream due to competition. These are reported as equivalent to 8.6% PA – still below the implied target for Southern Water over the first three years of AMP6, but well above those reported elsewhere.
However, closer examination of the evidence from Business Stream’s accounts suggests that in fact Business Stream’s administrative expenses (i.e. total retail costs) have in fact increased significantly over time. That does not appear to be consistent with annual efficiencies of 8.6% pa, even allowing for a modest increase in the number of customers served and the services provided. It is appropriate therefore to treat the savings claimed with a degree of caution.

Finally, Economic Insight considers the potential implications of required savings that are excessive and delivered over a short period of time. To illustrate the risks to customers, Economic Insight show that, if applied proportionately, the savings required imply cuts in headcount in the retail function is almost one half of the current 463 staff.

2.4.2 Conclusion

Taken together, Ofwat’s interventions result in a level of efficiency challenge which is too onerous and not achievable within five years without significant risk to our customers and/or our ability to finance our retail business. The implied efficiency target, if applied proportionally across our retail cost base, would require a halving in the number of employees in our retail business by 2019/20. This will have a significant impact on the level of service we can provide to our customers.

Our independent review of the regulatory precedents shows that the implied efficiency target is well in excess of that applied both historically in the water sector and in other regulated sectors. It is also greater than the level of savings achieved in other comparable sectors.

Ofwat must make the adjustments set out in this representation in respect of our base year, bad debt and input price pressure cases. If it does not it must set out how it has satisfied itself that the consequent efficiency target is both realistic and achievable within the five year price control. This is important to ensure that we do not put at risk our ability to finance our functions or service to customers.
2.5 Treatment of AMP5 legacy depreciation charge

In reviewing, and understanding, the gap between our June submission and the Draft Determination, we identified a potential error in Ofwat’s methodology for calculating ACTS and our allowance with regards to the treatment of the AMP5 legacy depreciation charge.

Whilst we understand the principle that the legacy depreciation charge is remunerated in the wholesale control it seems that the current ACTS methodology means that in cases where a company’s legacy depreciation charge is higher than that included in the ACTS it is adversely impacting the allowed cost to serve.

The issue is that the gap to the ACTS and the glide path are calculated using a cost to serve including legacy depreciation, however, when the amount recovered from customers is calculated our entire actual legacy depreciation charge is deducted.

We have separately provided, as part of our query submitted on this matter on 1st September 2014, workings which support our findings. We set out three scenarios where a company’s legacy depreciation:

- Is above the legacy depreciation included the ACTS.
- Equals the legacy depreciation in ACTS.
- Is less than legacy depreciation in ACTS.

Our calculations illustrated that in the final two years of AMP6, that is post the application of the glide path, a company recovers from customers the ACTS associated with household retail opex and AMP6 depreciation where their legacy depreciation charge is equal to the legacy depreciation charge in the ACTS. However, for companies which have a base year legacy depreciation charge above the industry average, such as us, they under recover compared to the ACTS (excluding legacy depreciation).

We have assessed the impact on the unmetered cost to serve as set out in Table 5 below.

Table 5: Comparison of our calculations to the Draft Determination

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<tbody>
<tr>
<td>Draft Determination - before addition of company specific adjustment</td>
<td>21.65</td>
<td>20.63</td>
<td>19.64</td>
<td>18.61</td>
<td>19.02</td>
</tr>
<tr>
<td>Difference - underfunding</td>
<td>1.59</td>
<td>2.13</td>
<td>1.26</td>
<td>0.43</td>
<td>0.02</td>
</tr>
</tbody>
</table>

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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Underfunding per annum</td>
<td>3.44</td>
<td>4.64</td>
<td>2.77</td>
<td>0.96</td>
<td>0.04</td>
</tr>
<tr>
<td>Total underfunding</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>11.85</td>
</tr>
</tbody>
</table>
The overall impact is an estimated underfunding of £11.8m.

In our calculation we have reduced the industry ACTS from £20.77 for unmetered customers to £19.04 by removing the average legacy depreciation per customer. We have then removed our legacy depreciation from our cost. In our view we have undertaken a calculation that reflects the underlying principle that legacy depreciation should not impact household retail revenues as confirmed by Ofwat.

As mentioned above we raised a query on this matter to Ofwat on 1st October 2014. A response was received on 2nd October where Ofwat stated “on reflection, we are confident that our methodology is sound in this regard.” However, we remain of the view that the calculation of the ACTS is not correct and does not reflect Ofwat’s expected outcome. We have therefore lodged a further query with Ofwat on 2nd October 2014 and they have confirmed that we will not receive a further response in advance of the deadline for submitting our responses on the Draft Determination to Ofwat. We will continue our dialogue with Ofwat on this matter.
3. Board Engagement

The Board have reviewed and endorse the representations set out in this response to the Household retail draft determination.

4. CCG

We have discussed our general approach with respect to our representations to the CCG. On this matter the CCG have decided there are no specific matters to requiring any comment.

5. External Assurance

We are not proposing to, and Ofwat have not requested us to, make any adjustments to our submitted Household retail tables. Further, we have made no alterations to our allocations either between wholesale and retail or household and non-household. For this reason we have not sought any further external assurance on our representations.

We submitted our external assurance report that was completed as part of our December submission to Ofwat on 19th September 2014 at their request.

6. Annexes

Annex 1 - Further evidence of our approach to effective management control of household retail costs.
Annex 1

Further evidence of our approach to effective management control of household retail costs

1 Overview of Approach

We adopt a value-based approach to cost control focused on achieving a balance between delivering the highest value for customers and minimising the cost of an activity. The approach consists of ten steps, which are described below.

Their application to debt prevention management policies and processes, and other areas, including customer service and metering are subsequently described in Table 1 and 2 below.

Step 1: Customer engagement – prior to minimising the cost of any activity or process we begin by using customer insight to assess whether the activity is really of value to customers and how it relates to their required outcomes.

The customer insight is gained through operational data or bespoke customer engagement. Market-leading practices that we developed as part of our Universal Metering Programme and in preparation of our business plan are now becoming part of our business as usual process.

Step 2: Collaboration – having established that an activity or process is valued by our customers, we consider whether we are truly the best stakeholder to be responsible for its delivery. In cases where we are not we will collaborate with the other stakeholder(s) in order to deliver the outcome.

Step 3: Sourcing strategy – having decided that it is Southern Water that is required to deliver the activity we evaluate whether we should do this directly or indirectly. Factors taken into account when coming to our decision include (i) whether the activity is strategic, (ii) whether we have the scale to deliver it efficiently, (iii) whether there is a salary arbitrage to be obtained and (iii) whether others are better placed to leverage their technology or intellectual property.

Step 4: Supplier management – having decided to partner with a contractor for delivery we will go through a robust selection and procurement process to ensure value for money. Once the contractual relationship is established we will develop the operational relationship through the appointment of a contract manager and the regular use of meetings to review contractor performance.

Step 5: Process design – for those activities that we retain, we design lean and customer-centric procedures, with regular assurance activities to ensure that they are being maintained and applied. Customer engagement is used to ensure that the output from these processes is in line with our customers’ expectations.

Step 6: Organisational design – we design our organisation in a way that is appropriate for the importance or complexity of the activity, ensuring that spans of control and layers of management oversight are appropriate.

Step 7: Measurement – the identification of key performance measurement indicators are a key part of the approach, wherever possible looking to ensure that metrics are lagging, to record performance including customer satisfaction and cash collection objectives and predictive, to shape management priorities. Wherever possible we will use industry-wide metrics to enable benchmarking with other companies.
Step 8: Management oversight – a consistent set of performance metrics are monitored across the retail activities and are reported and reviewed at all management levels up to and including the Board.

Step 9: External oversight – we regularly use external parties to appraise our performance and to help develop improvement programmes. We are members of peer networks which provide us with information to benchmark our performance directly with other companies providing both similar and very different services.

Step 10: Continual improvement – one of our core values is ‘always improving’ and this ethos is adopted throughout the organisation. Employees are encouraged, and often rewarded, for suggesting innovation. We frequently trial new tools to help develop innovative approaches.

2. Debt prevention and cost management

The table below sets out how these principles are applied to our billing and collections policies and procedures, which reflect our main debt prevention and management policies and procedures.

Table 1: Debt prevention and cost management

<table>
<thead>
<tr>
<th>Step</th>
<th>Billing</th>
<th>Collections</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Customer engagement</td>
<td>Customer engagement has led us to redesign our bills. Important information is displayed more prominently, as is clear guidance on what, if any, action, the customer needs to take. This is helping to reduce customer contact and our costs. Further engagement is demonstrating customer requirements of on-line bills which will ensure high usage of our on-line service.</td>
</tr>
<tr>
<td>2</td>
<td>Collaboration</td>
<td>For our waste only customers we work closely with the respective WOCs to ensure that any billing queries are dealt with in a timely fashion. We collaborate with regards to the exchange of information (subject to certain legal constraints) and ensure we discuss our plans for tariff development.</td>
</tr>
<tr>
<td>3</td>
<td>Sourcing strategy</td>
<td>Southern Water undertakes its billing activities directly using suppliers for the printing and delivery aspects. The arrangement will be reviewed as part of our on-going procurement event.</td>
</tr>
<tr>
<td>4</td>
<td>Supplier management</td>
<td>The Billing function meets with all operational suppliers on a regular basis, where key supplier performance metrics are improved in order to follow the practice of continuous service improvement. The aim of this process is to improve service quality where necessary, and to identify more</td>
</tr>
<tr>
<td>5</td>
<td>Process design</td>
<td>In relation to billing, we manage direct contact with regard to non-water services accounts and indirect customer contact with the exceptions that are generated from upstream billing, invoicing, and printing activities. We will endeavour to ensure all customer queries are resolved quickly, concisely and promote a culture of issue ownership across the business. To processes are evaluated on a regular basis. This includes identifying areas where the targeted process metrics are not reached, and holding regular audits, assessments and reviews.</td>
</tr>
<tr>
<td>6</td>
<td>Organisational design</td>
<td>Southern Water has a flat direct management structure that encourages direct ownership and delivery. The Billing function reflects those principles with core areas in Production, Revenue Optimization, Voids, and Exceptions reporting to a Billing Manager who takes overall responsibility for Billing.</td>
</tr>
<tr>
<td>7</td>
<td>Measurement</td>
<td>Both in our Annual planning process, Quarterly reviews and Monthly functional reviews, Key KPI’s focusing on Production, Exception tolerances Voids and Revenue optimization are reviewed.</td>
</tr>
<tr>
<td>8</td>
<td>Management oversight</td>
<td>Operational Management is performed reviewing key performance basis on a daily weekly and monthly basis. Variance analysis is performed against metrics and the principles of management by exception are observed. Key management meetings on a weekly basis will review metrics to ensure proactive movement to plans.</td>
</tr>
<tr>
<td>9</td>
<td>External oversight</td>
<td>Billing are subject to ISO9001 (2000) accreditation Audits, Internal Auditors and External Financial Audits. External consultants are used to challenge against industry best practice in key focus area’s.</td>
</tr>
<tr>
<td>10</td>
<td>Continual improvement</td>
<td>Billing processes and procedures are challenged and reviewed on a regular basis as part of operational management. Key services or process areas are reviewed, evaluated and tested, Initiatives and planned to address and these are monitored until completion. Where new processes or system upgrades are required project teams will be set up (including expert users from the business) and a project and programme methodology are adopted.</td>
</tr>
</tbody>
</table>
### 2. Cost management in Household retail

The table below sets out how the principles are applied to other areas in addition to our debt prevention and management policies, for which the latter have already been assessed by Ofwat as passing its test on management practice.

**Table 2: Retail cost management**

<table>
<thead>
<tr>
<th>Step</th>
<th>General</th>
<th>Customer Service</th>
<th>Metering</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Customer engagement</td>
<td>Southern Water has a Customer Insight team which specialises in identifying customer requirements through the analysis of operational data and bespoke customer research. An important part of its approach is the use of a five stage customer engagement lifecycle developed as part of the business planning process.</td>
<td>All new and changes to existing services are tested with customers using the engagement lifecycle. Recent examples include potential changes to hours of operation, and the development of a new online account management capability. In addition to improving customer satisfaction these changes lower the requirements for customer advisers and allow them to focus on the more complicated customer issues.</td>
</tr>
<tr>
<td>2</td>
<td>Collaboration</td>
<td>The importance of collaboration was demonstrated in Southern Water's Universal Metering Programme. As a result particularly strong operational relationships have been formed with Citizens Advice Bureau, Social Housing providers and local business representatives. These collaborative relationships mean that customers look to other, better positioned or appropriate organisations, for certain advice at particular times or places.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Sourcing strategy</td>
<td>In AMP5 Southern Water reviewed the benefits of outsourcing a number of its activities, and proceeded to procure on a ‘best of breed bases. This has resulted in lower costs per transaction although may not have provided sufficient emphasis on process efficiency. Southern Water is currently going through a procurement exercise to identify a single strategic partner to deliver scale in its transactional activities whilst retaining those emotional customer touch points which it will optimise through the application of its Customer Insight. It is expected that this consolidated approach to</td>
<td>During AMP5 we have used an offshore partner to deliver our ‘back office processes’ benefitting from a ‘labour arbitrage’, whilst undertaking all customer contact ourselves. Recently we have used an onshore partner to assist in the handling of customer contact to increase our flexibility to respond to customer call profiles. The arrangements will be reviewed as part of our on-going procurement event.</td>
</tr>
<tr>
<td>4</td>
<td>Supplier management</td>
<td>Southern Water’s approach is to appoint a contract manager who is in regular contact, and sometimes co-located, with our suppliers. On a monthly basis an Operational Review Board is held between the supplier, the contract manager and recipients of the supplier’s service. On a quarterly basis a Strategic Review Board is held which is attended by the Chief Customer Officer (CCO) and his counterpart in the supplier.</td>
<td>In addition to the general approach described we have regularly visits to our off shore suppliers, and on occasion have co-located our contract manager and other staff at our on shore supplier.</td>
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<tr>
<td>5</td>
<td>Process design</td>
<td>All our processes are documented and have been reviewed as part of our recent system upgrade design. Customer journey mapping was used alongside these designs along with further research for example on internet portals.</td>
<td>Processes are regularly reviewed at ORB meetings.</td>
</tr>
<tr>
<td>6</td>
<td>Organisational design</td>
<td>We design our organisation using 3 management tiers between CCO to customer adviser and a recommended span of control of 6 to 9 management reports. Within the contact centre environment this can increase to 15:1 supervisor to employee ratio.</td>
<td>Operational and billing contact centres are process aligned and therefore run separately. Management layers and spans of control are set with reference to industry best practice.</td>
</tr>
<tr>
<td>7</td>
<td>Measurement</td>
<td>Key performance metrics are identified as part of each key part of the process.</td>
<td>Key performance metrics are delivered to the senior management team (including CCO) on a daily basis. The focus is on first time resolution and abandonment levels.</td>
</tr>
<tr>
<td>8</td>
<td>Management oversight</td>
<td>Performance reports are received daily and reviewed collectively by the Chief Customer Officer and his direct reports on a monthly basis. This monthly review is also attended by the Financial Controller, or their designated representative. Performance is subsequently reported to the Board by the Chief Financial Officer on a monthly basis. Every three months the costs and associated performance is presented in detail to the Chief Executive Officer and Chief Financial Officer.</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>External oversight</td>
<td>Southern Water’s Customer Engagement directorate has</td>
<td></td>
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</table>
ISO9001 (2000) accreditation which is subject to external audit on a quarterly basis.

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<tbody>
<tr>
<td><strong>10</strong></td>
<td><strong>Continual improvement</strong></td>
<td>Southern Water has a culture of continuous improvement demonstrated by its adoption of ISO but further illustrated by its active membership of Institute of Customer Service and regularly attends other water companies and others outside the sector for the identification of best practice.</td>
</tr>
<tr>
<td></td>
<td>In addition to the process reviews mentioned previously we have held innovation days along with our suppliers and conducted a trial to understand whether voids data can be collected through the meter read process.</td>
<td></td>
</tr>
</tbody>
</table>
This short report provides a comparison of the efficiency challenge Ofwat has set for Southern in retail HH using its ACTS approach against a range of regulatory precedent. This shows that Ofwat’s approach currently requires Southern to achieve annual cost savings of 4.4% in real terms or 7.7% in nominal terms over PR14. These appear to be challenging when compared to the precedent we have reviewed. We do not consider that the decision to award Southern’s input price pressure claim should turn on the company demonstrating that Ofwat’s efficiency targets are ‘excessive’. Rather, the evidence contained in this report is provided in order to highlight the potential implications of Ofwat not explicitly taking inflation into account when setting retail efficiency targets.

Introduction and context

In its Final Business Plan for PR14 Southern Water (Southern) made a claim for an adjustment to its retail HH cost to serve to reflect input price pressure. In putting its claim to Ofwat Southern suggested that, by not factoring inflationary pressure into account, Ofwat’s average cost to serve (ACTS) efficiency challenge was ‘excessive’.

In its Draft Determination Ofwat rejected Southern’s retail HH input price pressure claim. One of the reasons Ofwat cited for disallowing the claim was that: “evidence shows that efficiency improvements of a similar magnitude [to those Ofwat is proposing to set Southern within its ACTS approach] have been achieved by other companies and so we conclude that the catch up efficiency challenge proposed for Southern Water is not excessive.”

In our view, it should not be necessary for Southern – or any company – to demonstrate that Ofwat’s efficiency targets are ‘excessive’ in order to successfully claim for input price pressure. Rather, the evidence in Southern’s claim relating to whether Ofwat’s efficiency challenges were inappropriately challenging was provided to illustrate the consequence of Ofwat not explicitly assessing the impact of inflation when setting efficiency targets.

Notwithstanding the above, Southern asked Economic Insight to undertake a review of regulatory precedent in relation to the setting of efficiency targets and to compare this to the efficiency challenge it faces within Ofwat’s PR14 ACTS framework – this, therefore, is the primary focus of this short report.

The remainder of this report is structured as follows:

» An overview of the efficiency challenge Southern has been set for retail HH over PR14.

» A comparison of the efficiency challenge Southern has been set relative to a range of regulatory precedent.

» Analysis of achieved efficiency savings across comparators.

» A discussion of the potential implications of the PR14 ACTS efficiency challenge.

» A summary of our key points and conclusions.
Southern's retail HH efficiency challenge for PR14

In its Draft Determination for Southern, Ofwat published details of its assessment of Southern’s actual and allowed average cost to serve.1 Using this data, we have calculated the implied per annum efficiency savings that Ofwat is requiring Southern to make. As Ofwat is not explicitly allowing for inflation, its efficiency targets should be interpreted as being in real terms (i.e. unless Ofwat allows for inflation, Southern will have to make those savings, plus any savings required to absorb input price pressure).

We have calculated the implied efficiency savings in both real and nominal terms (where we have assumed gross inflationary pressure for Southern of 3.1% pa, in line with the evidence it provided to support its input price pressure claim). We have further presented the pa savings:

- over the three year glide path to 17/18; and
- over the whole of PR14.

The figure below sets out the results of our analysis.

**Figure 1 Southern’s retail HH efficiency challenge for PR14**

![Chart showing efficiency challenge](chart.png)

Source: Economic Insight analysis of Ofwat data

As Ofwat is requiring companies to reach the ACTS by 17/18 over a three year glide path, the implied pa efficiency targets are somewhat higher when assessed over this period compared to PR14 overall (i.e. because Southern is not required to make further savings for the final two years of the control). Consequently, for the purpose of making comparisons to other regulatory determinations, we consider that the PR14 numbers are of most relevance. These show that Southern is required to make annual efficiency savings of 4.4% in real terms, and 7.7% in nominal terms. These are demanding targets.

The nature of setting the challenge over a glide path further means that companies must take costs out early on in the control period. The consequence of this is that, when assessed over the three years to 17/18, Southern will have to make real terms cost savings of 6.7% pa and 10.0% pa in nominal terms.

As we will discuss subsequently, the timing issue is extremely pertinent, because there is a range of evidence and literature in relation to the optimal path to efficiency. In addition, it is worth noting that Ofwat’s historical approach to setting efficiency targets embedded a view as to what proportion of any efficiency gap could be reasonably closed over the five year period of a price control. For retail in PR14, however, there is no explicit consideration of this per se; and in fact, savings must be front-loaded.

The above figures reflect Ofwat’s published numbers at Draft Determination. In Southern’s case, we understand that Ofwat used the company’s 2012/13 CTS as the start point for its assumed ‘actual cost’ in 2013/14. This was because of certain ‘one off’ costs in 2013/14, which Ofwat considered resulted in that year’s costs being unusually high and, therefore “not representative of ongoing costs.” We understand that Southern’s view is that it would be more appropriate to assess its efficiency challenge using its actual 2013/14 cost data, but with an adjustment to remove the ‘one off’ costs in question.

Southern has provided us with data that includes the above described adjustment, and the following chart therefore shows the implied efficiency challenge if the company’s amended 2013/14 CTS is used as the start point.

**Figure 2 Southern’s retail HH efficiency challenge with revised 2013/14 CTS start point**

![Chart showing efficiency challenge](chart2.png)

Source: Economic Insight analysis of Ofwat and Southern data

The above indicates that using Southern’s adjusted 2013/14 data implies an even higher efficiency challenge than that reflected in Ofwat’s figures. In particular, over the glide path period, the nominal challenge increases from 10.0% pa to 11.6% pa.

In the remainder of this report, when making comparisons to precedent, we use the efficiency challenge figures implied by Ofwat’s view of actual and allowed costs. This is in order to be conservative.

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How Southern’s efficiency challenge for PR14 compares to regulatory precedent

As noted in the introduction, we do not think it necessary for companies to prove Ofwat’s efficiency targets to be in some way ‘excessive’ in order for Ofwat to allow a net input price pressure claim. Rather the evidence here should be interpreted as providing information regarding the potential consequences of Ofwat’s approaches. Put simply, if ex post there really is uncontrollable input price inflation, then Ofwat’s efficiency targets translate to higher savings in nominal terms. This, in turn, raises questions as to:

- just how achievable those savings are really likely to be;
- and ultimately the end implications were companies not able to achieve them (for example, because input price pressure cannot be fully absorbed, potentially making retail unprofitable over time).

Therefore, in order to help illustrate the relativities of Ofwat’s ACTS efficiency challenge, we reviewed a range of regulatory determinations in which pa efficiency challenges had been set. Here our focus was primarily on operating cost related targets, as water retail is a capital light function. In turn we therefore set out a comparison of efficiency targets:

- as previously set in relation to the water industry; and
- as previously set in regulatory determinations across a wider set of industries.

Evidence of efficiency targets set in the water industry

In examining precedent regarding efficiency targets, an obvious start point is to consider those previously set for water and sewerage companies in England and Wales. The following figure therefore shows the total efficiency targets set (both frontier shift and catch up) as determined by Ofwat and by the Competition Commission in its review of Bristol Water’s PR09 Determination. The targets are presented in real terms and relate to opex, which we consider to be of most relevance to retail HH.

![Figure 3 Comparison of retail HH target for Southern with previous efficiency targets for England and Wales water companies (real)](image)

Source: Ofwat, Competition Commission, Economic Insight

In reviewing the above, it should be noted that the figures presented for historical determinations are based on averages across the companies included. In the Competition Commission (CC) case, the target relates specifically to Bristol Water.

The data shows that the real terms efficiency target Ofwat has set Southern in the retail HH control (which we find to be 4.4% pa) is materially higher compared to those that either it, or the CC has previously set (on average). Specifically, the annual saving Southern is being required to achieve is 2.7 percentage points higher than the one Ofwat allowed on average at PR09; and 2.0 percentage points higher than the one it allowed on average at PR04.

With regards to the above, clearly we recognise that Southern is less efficient than the average company in relation to its retail HH function. Consequently, a comparison of Ofwat’s proposed retail HH efficiency targets against historical industry average targets may not provide the most appropriate reference point. To address this, we have calculated the total real terms efficiency targets Ofwat set the companies at PR09 across each of the relative efficiency bands used by the regulator – and compared these to the target it is now proposing for Southern with respect to its retail HH function. The results are shown in the following figure.

![Figure 4 Comparison of retail HH target for Southern with range of targets set by Ofwat at PR09 (real)](image)

Source: Economic Insight analysis of Ofwat data

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The above shows that the efficiency challenge Ofwat is proposing for Southern with respect to its retail HH function is considerably above even the highest target set for PR09 (with respect to opex). Indeed, we note that Ofwat appears to be assuming Southern can achieve per annum efficiency savings that are 46% greater than even the highest target it set at the last price control (1.4 percentage points higher pa).

Figure 5 Comparison of Southern’s retail HH targets at PR09 and proposed target for PR14

![Graph showing efficiency targets comparison]

Source: Economic Insight analysis of Ofwat data

What is more, Figure 5 (above) shows the efficiency targets for the relative operating efficiency bands that Southern was classified as at PR09 (A upper for water, and B upper for sewerage), compared to the efficiency challenge Ofwat is intending to set for Southern at PR14. This further demonstrates that Ofwat’s current assumption regarding Southern’s efficiency for retail deviates quite markedly from the regulator’s assumptions at the last price control.

Of course, the above comparison does not take account of the fact that under the historic regulatory framework, companies were automatically allowed to recover inflation and this is not the case now. Consequently, a 4.4% efficiency target under the new regulatory framework (i.e. without an automatic allowance for inflation), is equivalent to a 7.7% efficiency target under the historic regulatory framework (i.e. with an automatic allowance for inflation) in terms of how it affects a company’s profit. Therefore, a comparison of targets, which reflects the fact that Southern must absorb retail relation inflation, is shown in the next chart.

![Graph showing efficiency targets comparison]

Source: Economic Insight analysis of Ofwat data

As shown in the figure above, Southern is being asked to make cost efficiency savings that are the equivalent of 4.5 times greater than Ofwat set for the industry, on average, at PR09. Further, it is 2.6 times higher than Ofwat set for the least efficiency companies (i.e. Band C lower) at PR09.

We recognise that the above does not, in and of itself, imply that Ofwat’s efficiency target for Southern with respect to retail HH is necessarily inappropriate. However, it does demonstrate that – by not explicitly taking input price pressure into account when setting efficiency targets – the result is implied targets that are materially higher than those previously deemed suitable by the regulator.

Evidence of efficiency targets set across wider industries

To help provide additional points of reference with regards to Ofwat’s proposed targets for Southern’s retail HH business, we have reviewed efficiency challenges as set by regulators across a wide range of determinations. In total we have reviewed some 18 cases.

Clearly, when examining efficiency targets in other sectors (even closely related ones) a degree of caution must be exercised. For example:

- the ability to realise cost efficiencies may differ across industries due to differences in their fundamental characteristics;
- the prevailing efficiency of the industry or firm in question may also be of relevance, in that an industry or firm that has considerable inefficiency may be able to realise efficiencies more quickly relative to a more efficient industry or firm; and
- the speed at which costs can be removed – and the associated implications can also differ materially,

In relation to the first of the above points, in our view comparators are only likely to be relevant if they are sufficiently similar in terms of: (i) activities undertaken; and (ii) asset intensity. Therefore, the purpose of examining a wide range of precedent (as summarised below) is one of
completeness. In practice, when suitable economic criteria are considered, some of these may not be particularly relevant. Indeed, as summarised subsequently (and set out in detail in the annex to this paper) the limited comparators Ofwat has considered would appear to be particularly poor comparators from an economics perspective, the only potential exception being Welsh Water.

Of particular relevance to the precedent examined is the fact that these decisions also included an allowance for inflation (either through the quantification of real price effects within efficiency targets, or by allowing for inflation in end prices under a traditional RPI-X approach). Therefore, in essence the 'real' efficiency savings companies had to achieve are effectively also the nominal ones.2

We consider it informative to review the efficiency targets set by regulators historically and compare this to the target Ofwat has proposed for Southern. The following figure sets out the results of our review (data is presented in nominal terms).

Figure 7 Comparison of retail HH target for Southern with a range of regulatory precedent (nominal terms)

Source: Various regulators, Economic Insight analysis

The above data shows that:

- The average pa efficiency saving across the determinations we have reviewed is 2.9%, which is considerably below the target Ofwat has proposed in relation to Southern’s retail HH function.
- The ‘upper quartile’ of the range of precedent reviewed has an associated efficiency target of 3.1%. Again this is well below the target Ofwat has proposed for Southern.
- That the only efficiency target precedent that is in any way close to that Ofwat is proposing relates to that set by the NIAUR in 2010 for Northern Ireland Water - NIW (7.0%).

However, here we note that: (i) NIW is a publically owned company, not subject to shareholder pressure; (ii) the regulator did explicitly allow for inflation, as NIAUR has confirmed to us in correspondence; and (iii) its more recent target for NIW is 5.0% nominal, some 35% below that proposed by Ofwat for Southern.

It is clear that, when compared with a wide range of regulatory precedent, the efficiency targets for Southern’s retail HH business implied by Ofwat’s ACTS are high. Again, this in and of itself does not mean that the targets are inappropriate. However, it again helps highlight the implications of Ofwat not explicitly allowing for inflationary pressures when setting efficiency targets.

How efficiency and inflation (real price effects) are reflected in regulatory precedent

Related to the above precedent, some regulators undertake a detailed analysis of real price effects within their overall approach to setting efficiency targets. Here real price effects refer to the net impact of sector or firm specific inflationary pressures and cost savings. This approach, which Ofgem in particular has deployed in a detailed manner for some time, further illustrates the intrinsic links between inflation and efficiency in a regulatory context. To further illustrate this, we briefly summarise Ofgem’s approach to real price effects below.

“The real price effect (RPE) assumption, and associated ex ante allowance, reflects the expectation that there will be a difference between the change in the retail prices index (RPI) measure of inflation and the change in the price of inputs that the GDNs purchase, most notably labour. The ongoing efficiency assumption reflects the expectation that even the most efficient network company can make productivity improvements, for example by employing new technologies. This assumption represents the potential reduction in input volumes that can be achieved whilst delivering the same outputs.”4

So, overall, when setting efficiency targets for companies, Ofgem considers inflationary pressures, as well as efficiency savings. In this specific case (RIIO-GD1), “Our [Ofgem’s] approach results in a RPE net of ongoing efficiency of -0.3 per cent per year on average [...]. As set out in table [1], this implies that GDNs should more than offset input price increases through ongoing efficiency.”5 The table below summarises Ofgem’s assumptions at GD1.

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2 This is the case as either regulators allow for inflation through RPEs or through an RPI-X approach.

3 We have contacted the NIAUR to confirm this and have been informed that nominal efficiency savings will be the same as real efficiency savings in percentage terms in NIW’s case.


### Table 1 Average annual RPE, ongoing efficiency, and net impact – RIIO – GD1

<table>
<thead>
<tr>
<th></th>
<th>Opex</th>
<th>Capex</th>
<th>Repex</th>
<th>Totex</th>
</tr>
</thead>
<tbody>
<tr>
<td>RPEs</td>
<td>0.4%</td>
<td>0.5%</td>
<td>0.6%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Ongoing efficiency</td>
<td>1.0%</td>
<td>0.7%</td>
<td>0.7%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Net efficiency target</td>
<td>0.6%</td>
<td>0.2%</td>
<td>0.1%</td>
<td>0.3%</td>
</tr>
</tbody>
</table>

Source: Ofgem

By comparison, Ofgem's approach to retail HH is to only consider the efficiency savings (implicitly both ongoing and catch up savings) companies can make, whilst ignoring any RPEs. Had Ofgem applied the same approach in its determination (above) companies would have faced a minimum 1.0% pa efficiency target, circled in red, (plus any cost savings potentially embedded within the real price effects figure) in relation to opex. This compares to the net challenge Ofgem actually set of 0.6% pa, once inflation was taken into account.

Similarly, the Northern Ireland Authority for Utility Regulation (NIAUR) sets efficiency targets for Northern Ireland Water (NIW), and takes future input price pressures into account when setting those. Firstly, it sets the efficiency catch up rate for NIW, and secondly, it considers the frontier shift when setting efficiency targets. "The frontier shift consists of three elements: (i) inflation (RPI) forecasts; (ii) productivity estimates; and (iii) input price movements in the water industry cost base. If water industry prices are forecast to be greater than RPI and productivity combined, the efficiency challenge will be reduced. If not, the result will be an increased target." In summary, the NIAUR's efficiency challenge is based on a catch up target and a continuing efficiency (frontier shift) assumption, which is defined as follows:

**Frontier shift (real) = input prices – productivity – forecast RPI inflation**

This approach is more in line with Ofgem’s and allows companies to absorb input price pressures. Overall, Ofgem always considers the net impact of RPE and ongoing efficiency. So, when setting price controls, it bears in mind how input price pressures can offset efficiency gains and vice versa. In Ofgem’s words: "We will use our cost assessment analysis to set an efficient level of costs for each DNO. We expect that over the price control period costs will change as a result of input price inflation and a counteracting adjustment for improvements in productivity."  

In addition to a detailed assessment of RPEs, historically price control regulation has often explicitly linked prices to inflation through indexing to RPI. This is not to say that such an approach remains appropriate to water retail. Rather, it serves to illustrate that the linkages between inflation and efficiency assessment are well established and can either be implemented relatively simplistically (by indexing prices to inflation), or by assessing RPEs specific to the industry in question in a more detailed manner.

### Evidence regarding achieved and planned efficiency savings

In our view, the preceding discussion and analysis of efficiency targets is highly relevant to the central issue here—that not factoring inflationary pressure into efficiency targets will lead to unduly demanding efficiency targets in nominal terms. Notwithstanding this, we have also (in response to Ofgem's feedback to Southern) examined evidence relating to efficiency savings achieved by firms historically in the water sector.

Here we note that some caution must be attached to such comparisons, as any ex-post quantification of 'efficiency savings' can be complex. In particular, as many factors can influence a firms costs over time – not least changes to both the quantity and mix of what it is supplying, and of course, input price pressure, accurately identifying a pure 'efficiency' effect is not straightforward.

In the above context, we have not sought to undertake any new analysis ourselves of historical efficiency savings; but, rather, have examined some existing evidence of reported savings. We then review and comment on these with reference to the efficiency challenge Ofgem is proposing for Southern. In turn we discuss:

- Water companies in England and Wales
- Business Stream and Scottish Water in Scotland; and
- Northern Ireland Water.

### Water companies in England and Wales

Relevant evidence regarding efficiency savings achieved historically by water companies in England and Wales is contained within the Competition Commission's review of Ofgem's Final Determination for Bristol Water at PR09.

In the published final report, the Competition Commission states that Bristol provided evidence that: 'only 2 out of 21 water companies—South East and South Staffordshire—outperformed the 60 per cent efficiency target set for them at PR04. Furthermore, one of the outperforming companies merged and might have benefited from possible merger

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efficiency that would not have been available to other companies.9

As noted previously, the average opex efficiency target set by Ofwat at PR04 (to which Bristol’s evidence referred) was 2.4%, including catch up and frontier shift. Whilst the individual targets varied across companies, the above nonetheless provides relevant context, in that it indicates that relative to this order of magnitude of target (which is far lower than the one currently propose for Southern) most companies did not, in fact, over achieve.

Furthermore, again with reference back to Ofwat’s historical targets, if the regulator was of the view that companies could (and did) systematically realise much larger efficiency gains in practice, then over time one would have expected it to set materially higher efficiency targets. However, again as noted previously, for PR09 the average efficiency target was 1.7%, which is below that set for PR04. Economically this makes sense because, gradually over time, as companies make efficiency savings, the scope for making more savings tends to diminish. However, it would seem to be inconsistent with Ofwat having the view that companies’ achieved efficiency savings were likely to be materially higher than its targets.

Regarding the above, we of course recognise that some companies may have achieved much higher efficiency savings either in particular years, or during other price control periods. Indeed as noted previously, we have not, within the scope of our work, undertaken a detailed assessment of cost savings for each individual firm.

Business Stream and Scottish Water in Scotland

In theory evidence regarding the achieved efficiencies of Business Stream in Scotland could be of relevance. This is because: (i) it is the retail arm of Scottish Water, and hence the efficiencies would relate specifically to water retail; and (ii) to the extent that the NHII retail market in Scotland has been open for competition for a number of years, then the achieved efficiency savings might be considered to reflect the removal of historical inefficiency due to competitive pressure.

We are aware that the Water Industry Commission for Scotland (WICS) has published an analyses of the cost efficiency savings it considered Business Stream to have achieved post market opening. In particular, in its ‘audit trail’ of the impact of retail competition, the WICS sets out what it considered to be the achieved historical efficiencies of the retail business. This represents one step in the WICS’ wider analysis of the costs and benefits of competition – that is to say, in this specific calculation step, the WICS wished to exclude the impact of historical achieved efficiencies so as to avoid double counting future benefits of competition.

The figures of relevance are set out (exactly as reported by the WICS) in the table below. In presenting these we note that the WICS specifically states that the figures reflect inflation and “take account of the remaining scope for retail efficiency in line with the actual efficiency achieved by the wholesale business.”10 Put simply, the WICS based its assessment of the efficiencies achieved by Business Stream in retail by allocating a proportion of the efficiencies the wholesale business had achieved. On this basis, the WICS’ own analysis implies that achieved retail efficiencies over the period 06/07 to 09/10 were 0.5% pa – substantially below Ofwat’s proposed target for Southern.

<table>
<thead>
<tr>
<th>Table 2 WICS’ assessment of achieved retail efficiencies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>06/07</strong></td>
</tr>
<tr>
<td>-----------------</td>
</tr>
<tr>
<td><strong>Total retail operating costs</strong> (06/07 prices)</td>
</tr>
<tr>
<td><strong>RPI factor</strong></td>
</tr>
<tr>
<td><strong>Total retail operating costs Calculation (outturn prices)</strong></td>
</tr>
<tr>
<td><strong>Assessed scope for efficiency (%)</strong></td>
</tr>
<tr>
<td><strong>Total retail operating costs Calculation post efficiency</strong></td>
</tr>
</tbody>
</table>

Source: WICS11

It should also be noted that, as the figures are indexed to RPI, the WICS’ analysis of 0.5% achieved annual efficiencies in real terms also translates to efficiencies of 0.5% in nominal terms.

In the same ‘audit’ report, the WICS goes on to assess the cost savings that Business Stream has achieved due to competition. In our view, it is questionable as to quite what the appropriate interpretation of these figures should be. As presented, they represent the difference between Business Stream’s actual operating costs, and a baseline, which the WICS suggests represents what its cost would have been had competition not occurred (post the achieved efficiencies set out in the previous table).

Simplistically, one could take the view that, if the analysis properly captures cost savings arising from competition, then these too might be interpreted as ‘efficiency savings’ to

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10 ‘Retail Competition in Scotland: An audit trail of the costs incurred and savings achieved,’ WICS (2011) page 17.

Business Stream. However, in practice this issue is quite complex. Nonetheless, if we take the conservative assumption that savings from competition – as quantified by the WICS – are indeed efficiencies, we can calculate an implied percentage annual saving. Accordingly, the following table shows the WICS’ assessment of Business Stream’s operating costs: (i) on a baseline (i.e. pre competition) basis; and (ii) post competition, with the associated cumulative savings.

Table 3 The WICS’ assessment of Business Stream’s operating costs pre and post competition (£m)

<table>
<thead>
<tr>
<th></th>
<th>06/07</th>
<th>07/08</th>
<th>08/09</th>
<th>09/10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Stream’s baseline costs pre separation</td>
<td>£8.3</td>
<td>£20.6</td>
<td>£21.2</td>
<td>£21.1</td>
</tr>
<tr>
<td>Business Stream’s actual net operating costs</td>
<td>£7.3</td>
<td>£19.4</td>
<td>£16.4</td>
<td>£13.8</td>
</tr>
<tr>
<td>Savings to date (cumulative)</td>
<td>£1.0</td>
<td>£1.2</td>
<td>£4.8</td>
<td>£7.3</td>
</tr>
</tbody>
</table>

Source: WICS

Taken at face value, the above implies that, by the end of the four year period assessed, Business Stream had reduced its costs by £7.3m cumulatively, relative to the counterfactual baseline of £21.1m. In percentage terms, this translates to a total saving of 34.5% over four years, or 8.6% pa on average. We would be cautious about considering the entirety of this to represent a pure ‘efficiency’ gain for various reasons, but not least because the counterfactual point of comparison is hypothetical. Nonetheless, we note that, even on this conservative basis, the 8.6% pa figure is below the annual reduction of 10.0% pa Ofwat is requiring Southern to achieve over the three year glide path to 2017/18 in nominal terms.

Given the complications associated with interpreting the above information, we have examined Business Stream’s statutory accounts over the last seven years to 2014. As accounts provide a breakdown of staff costs, and because within water retail functions staff costs are typically a material component, we have examined average staff costs at Business Stream over time. As shown in the following figure, these have not only increased significantly over the whole period, but have also increased in every individual year.

As shown above, average staff costs at Business Stream have risen sharply, from £23k in 2008 to £39k in 2014, an average annual increase of 10%. Critically, in its 2014 accounts, staff costs account for 32% of Business Stream’s administrative operating cost (i.e. the retail component). This percentage is in line with proportions of staff costs seen in water companies in England and Wales. Put simply, in relation to staff costs, which account for almost a third of Business Stream’s total retail function, its accounting data shows underlying increases of 10% pa. This is materially above overall UK wage inflation (which was particularly low during the recessionary time period covered by the above analysis).

Of course, it is possible that some of the changes in average staff costs at Business Stream are accounted for by changes in the mix of staff employed. However, even if this were the case, that would not necessarily indicate that such changes were efficient – unless they resulted in cost savings elsewhere. It is not clear, from first principles, what these would be, however.

Finally, Business Stream’s accounts separate out costs of goods sold (which relate to wholesale charges levied by Scottish Water) from its administrative expenses (the costs directly associated with its retail business – of which staff costs are one element). We have therefore examined the change in these at a total level over time, as shown in the chart below.

Source: Business Stream statutory accounts

Source: Business Stream statutory accounts
The above also shows large increase in Business Stream’s administrative (i.e. retail) costs over time. Specifically, these have risen from £19.4m in 2008 to £35.6m, an increase of some £16.2m – or, notably, 83% in just six years (equivalent to 14% pa). Strictly speaking, it would be more informative to express the above totals on a ‘per customer’ basis. However, Business Stream does not publish customer numbers in its accounts.

Relatedly, a variety of public sources indicate that Business Stream currently retains a market share of +95% in the Scottish retail market. Given this, and the 83% increase in its total retail cost to serve, one would need to make aggressive assumptions about: (i) increases in customer numbers; and / or (ii) input price pressure, for any reduction in unit costs to be plausible. For example, assuming flat customer numbers (which may be plausible assuming modest underlying growth and low churn) input price pressure would need to be circa 10% pa in order for unit costs to be flat. It would seem, therefore, that Business Stream’s unit retail costs have, most likely, risen over recent years.

Finally, we have calculated Business Stream’s return on capital employed over the period 2009 to 2014. We find that is consistently increases over the period from 26% to 43% and is, therefore, multiple times above any realistic assessment of its cost of capital. This is relevant because, in a competitive market, one would typically expect efficiency savings to be passed through to price, so that returns are, in the long run, at their normal level. In other words, Business Stream’s profitability performance does not, at face value, seem consistent with it delivering efficiency savings due to competitive pressure. Business Stream’s ROCE is shown in the following chart.

Figure 10 Business Stream’s ROCE

Source: Business Stream statutory accounts

Relating the above analysis back to the figures included within the WICS report referenced earlier, we would note the following. Firstly, that the modest achieved efficiency savings quoted by the WICS for Business Stream of 0.5% per annum are not necessarily inconsistent with the above findings. However, given the increase in overall unit retail operating costs implied by the accounting data – and the demonstrable increases in average staff costs – this would seem to turn on efficiency being defined by the WICS in some way other than ‘cost to serve per customer’. This is because it appears implausible to suppose that unit retail costs have fallen, even by as little as 0.5% pa (for the reasons outlined earlier).

Given the above, the achieved 0.5% efficiencies reported by the WICS might be explained by controlling for: (i) changes in the type of services being supplied by Business Stream; (ii) changes in the mix of customers it is serving; and / or (iii) changes in fixed costs. It might also be explained by including or excluding certain cost items not separately reported in the statutory accounts.

In any case, however, as Ofwat is, in fact, assessing efficiency based on unit cost to serve, clearly the evidence here would suggest that any comparison of Southern’s efficiency target to the reported achieved efficiencies of Business Stream are irrelevant. For the same reasons as outlined above, the larger reported savings made by Business Stream relating to competition (8.6% pa) are also irrelevant to the efficiency target proposed by Ofwat for Southern.

Finally, we are aware that the WICS has also reported the efficiency savings achieved by Scottish Water over time. As this relates to either the integrated end-to-end supply chain, or to wholesale, these are also irrelevant.

**Northern Ireland Water**

The Northern Ireland Authority for Utility Regulation (NIAUR) regulatory publishes information regarding the historical operating cost savings achieved by Northern Ireland Water. The latest of these was published in December 2013, examined NIW’s operating cost savings over the PC10 control period. This shows that NIW’s actual total opex fell from £212.8m in 2009/10 to £191.7m in 2012/13. This is equivalent to a total percentage reduction of 9.9%, or 3.3% pa in nominal terms – far lower than Ofwat’s proposed nominal targets for Southern. This is the appropriate basis for comparing with Ofwat’s implied nominal target for Southern, given that it is not proposing to make any allowance for input price pressure.

Further to the above, NIW’s latest Business Plan sets out its planned efficiency savings over the period 2015/16 to 2020/21. In total, the business expects to achieve cumulative savings over this five-year period of 16%, equivalent to 3% pa, again below the nominal target set by Ofwat for Southern.

**Summary of achieved efficiency evidence**

The evidence we have reviewed would seem to indicate that, in broad terms, the likely achieved efficiencies of water companies (including retail specific functions in the case of Business Stream) are, in order of magnitude terms, no greater than the ranges for targets historically set by Ofwat. We further note that, if Ofwat believed achieved efficiencies were materially higher than its targets, then over time one would have expected Ofwat’s targets to have increased significantly to reflect this.
Our review of achieved efficiencies has been limited to the examples quoted above. We therefore recognise that it is possible that certain individual companies may have achieved higher levels of savings, either in specific years or over price control periods not covered in our review.

**Potential implications and considerations regarding Southern’s PR14 efficiency challenge**

In setting efficiency targets, regulators are not only concerned with the ‘measurement’ of inefficiency. Rather, they also take into consideration (i) the inherent uncertainty regarding its assessment; and (ii) the practicalities associated with companies achieving savings.

Consistent with the above, in setting the targets, regulators typically need to make judgments as to ‘how much’ of an efficiency gap can be closed, and ‘how quickly’. That is to say, the targets do not assume that 100% of a gap can be closed over a relatively short price control period. This is because it is widely accepted that, even with good management control, it is often unrealistic – or more importantly – sub optimal economically, to set targets based on closing the entirety of an efficiency gap in the short term. In determining the appropriate extent and speed of catch up, a number of issues must be taken into consideration, and therefore a degree of regulatory judgement is required. Accordingly, there is some variance across regulators as to exactly what is assumed. However, in the main our review of precedent indicates that regulators typically assume that companies can close between 50% and 75% of an efficiency gap over a price control period (where those periods vary from 5 to 8 years). In the following we set out a few specific examples.

The Office of Rail Regulation (ORR) estimated that Network Rail’s efficiency gap in the support, operations, maintenance and renewals expenditure at the end of CP3 amounted to 35%. It set Network Rail the target to close two thirds of that gap in CP4 (i.e. achieve 21% efficiencies by the end of CP4).\(^{14}\)

In determining the ‘size’ of this gap, the ORR used a Corrected Ordinary Least Squares model. As this includes both true inefficiencies, unobserved factors and any errors, it is likely to overstate efficiency gaps in general. As such the ORR made an adjustment to the estimate to reflect these unobserved factors. Given that they are unobserved any adjustment is, to some extent, a matter of judgement. In this specific case, the ORR reduced its estimates by 25%.

Ofwat, at PR09, stated that the “efficiency catch-up factor for base operating expenditure assumes that a company will close 60% of the assessed efficiency gap to the frontier performance by 2014-15, with equal improvement steps in each year.”\(^{15}\) The same efficiency gap closure was required at PR04 (for operating expenditures), and it has previously assumed gap closures of 50%.

The NIAUR has followed Ofwat’s approach quite closely, and has assumed that 60% of the efficiency gap can be closed over the five years of PC10, and is more recently proposing an 80% gap closure over the eight years of PC15.

On the other hand, Ofgem, at RIIO-GD1, defined the benchmark as the upper quartile (UQ) cost for the respective base year (2011/12 for historical models, and 2013/14 forecast models), and required GDs to close 75% of its assessment of their relative inefficiency. Ofgem considered that such an approach acknowledges that an element of the models’ results represent statistical error as opposed to relative inefficiency.\(^{16}\) In relation to this, it is important to note that Ofwat’s proposed ‘upper quartile’ criteria for awarding input price pressure for retail in PR14 is not equivalent to Ofgem’s approach. Specifically, Ofgem uses the upper quartile as a benchmark. It does not (as Ofwat is suggesting) use it as a threshold to allow or disallow input price pressure altogether.

Finally, of particular relevance, the ORR finds that the longer regulated companies have been privatised, the smaller the efficiency gap becomes. Nonetheless, it estimates that catch up does not get fully worked through until 15-20 years after privatisation. This is because those companies have been exposed somewhat to competitive pressures, which prevent them from carrying inefficiencies in the long term. This is especially relevant to the examples of NIW) efficiency targets referenced earlier. Indeed, we note that NIW’s remains a publically owned company and is not exposed to either competitive market, or external private shareholder, influence. In our view, this calls into question the comparability of its targets to those proposed by Ofwat in relation to Southern.

**Practical considerations and implications regarding how firms meet efficiency challenges**

In order to achieve cost savings (either through competitive market pressure or, in the case of regulated firms, to meet efficiency targets), firms are faced with various mechanisms that they can utilise. In somewhat simplistic terms, however, ultimately they can: (i) reduce costs by simply ‘cutting’ them with immediate effect (i.e. turning costs off); and / or (ii) make operational changes, usually supported by up-front investment in new technology or processes, in order to lower ongoing costs (i.e. invest in more efficient outcomes).

In the above context, it is worth considering the context of the efficiency targets Ofwat has set for retail HH and the wider context of the retail control. In particular, Ofwat is – in effect – requiring companies to make these cost savings over a short period of time (i.e. a three year glide path within the control). In addition, Ofwat has not published any

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assessment of either the extent of any retail efficiency gap it thinks can be closed over PR14, nor the speed at which it can be closed. However, we should emphasise that this does not necessarily mean that Ofwat has not taken these matters into consideration.

Nevertheless, the above factors would seem to mean that – in order to achieve Ofwat’s targets – firms may tend to focus on short term cost ‘cuts’, rather than contemplate efficiency related investments that require longer to drive down costs. This is especially pertinent given the cost mix of water retail and, in particular, the fact that staff / people costs represent a significant part of the overall cost base. In this context, for example, demanding short term cost savings targets might tend to require firms to err more towards taking more drastic actions (such as making redundancies), rather than more structural solutions, such as managing salary costs down over time through pay deals and reorganisations.

The above critically matters because, from a longer term consumer welfare perspective, it might be the case that longer-term solutions are superior to short term ones. This could be the case, for instance, if the short term solution implicitly leads to a reduction in service quality below levels customers’ desire – so that, in fact, it is not efficient in a dynamic sense. There is a range of literature consistent with the above theory:

» “General cost reduction efforts (e.g. downsizing) do not necessarily improve efficiency, but quality efforts that reduce cost always do”.17

» “The most commonly implemented form of downsizing – across-the-board, grenade-type approaches – is associated with organisational dysfunction, organisational ineffectiveness, and lack of improvement.”18

These ‘side-effects’ of short term cost reduction mechanisms may prove very hard to overcome in the future and carry further inefficiencies with it (i.e. unmotivated staff are not as efficient as they could be, etc).

To illustrate what these efficiency targets imposed by Ofwat mean in practice, we have considered Southern’s required efficiency savings (in £m) over a three-year glide path (based on 2013/14 total retail HH operating costs data), against the average annual salary of a customer service operator (£19,710 based on ASHE/ONS 2013 data). Here we are not implying that redundancies are the preferred route to meeting efficiency targets per se. Rather, given how material staff costs are to retail, we are seeking to create a stylised (but plausible) example of what Ofwat’s targets may mean in practice.

Stylised example of how efficiency targets translate to headcount

In total Ofwat’s targets imply that Southern would need to save £6.56m in 14/1519. If we assume that Southern would seek to meet the cost challenge in proportion to its existing cost base, this would imply that it would lower staff costs by £1.12m (17% of the total). Taking the average customer service operator’s salary of £19k referenced earlier (adjusted for inflation in the subsequent years), this would imply a headcount reduction of 57 in one year to meet target. Rolling the same stylised calculation forward, this implies a total headcount reduction of 216 by 2017/18.

To put the above into context, our previous work for Southern shows that the company currently has 463 staff associated with its retail HH function. Consequently, if Southern were to meet its target in proportion to its cost base, this would imply a headcount reduction of almost half.

We should emphasise that the above is illustrative only – and that Southern has numerous options available to it for achieving the required cost reductions. However, we note that the (relatively short) three year glide path period would seem to make more structural solutions (such as managing pay structures down over time) more difficult to implement in practice.

A brief overview of comparators considered by Ofwat

Southern has advised us that Ofwat has provided it with details of the comparators it considered when determining whether its efficiency target for Southern’s retail HH business was appropriate. In particular, we have been advised that Ofwat referenced:

- Welsh Water’s proposed retail HH cost efficiencies over the coming regulatory period;
- Network Rail’s efficiency targets as set by ORR;
- related to the above, United Airlines and other firms referenced in support of the ORR’s determinations; and
- administered incentive pricing in telecoms (MNOs).

With regard to Network Rail (and comparators such as United Airlines referenced in relation to this) the evidence shows that they differ so markedly in terms of activities undertaken and asset intensity, that they have no economic validity as a point of reference to Southern’s retail business. This point stands regardless of the fact that the evidence in question relates to operating expenditure (specifically administrative costs) because of the inherent linkages between capital investment, technology and operating costs in highly asset intensive industries, such as these. Specifically

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17 Getting Return on Quality: Revenue Expansion, Cost Reduction, or Both? Roland T. Rust, Christine Moorman and Peter R. Dickson (October 2002).


19 Calculated as Southern’s retail HH opex of £65.6m in 2013/14 multiplied by the nominal efficiency challenge over three years (10.0% pa) giving £6.36m.
Network Rail’s ratio of total assets to turnover is 851%, compared to 6% for Southern’s retail HH business.

Further in relation to Network Rail, we note that the ORR’s framework is one that considers efficiency targets and input price pressure concurrently (in that it quantifies and allows for both) – in contrast, Ofwat’s proposed approach for Southern does not. Relatedly, ORR has historically also ensured that Network Rail is not exposed to general inflation risk, as this was deemed to be outside its control. For CPS, ORR transferred some general inflation risk to Network Rail – but only a small proportion. The key point, however, is that the efficiency assessment was holistic and that, although Network Rail was deemed to be inefficient; (i) input price pressure was allowed for; and (ii) its exposure to general inflation risk is limited. As Ofwat’s framework in retail has neither of these features, the validity of the comparison is further reduced.

The administered incentive pricing example (i.e. license fee charges for spectrum levied on MNOs) is also irrelevant. Ofwat appears to be characterising changes in fees over time as driving a need for MNOs to absorb those changes through making large cost savings. In fact, as such fee changes reflect changes in the underlying economic value of spectrum, they are actually driven by changes in expected future MNO cash flows associated with the spectrum in question. So, if Ofcom doubles license fees, it is because it expects the future discounted cash flows (associated with that spectrum) of the MNOs to double. Further, this change in value could be entirely unrelated to opex and could be revenue driven. Consistent with this, evidence shows opex per subscriber increasing over time for the MNOs. In addition, and related to the above, Vodafone has a ratio of total assets to turnover of 206% (again, compared to 6% for Southern in retail HH).

This, then, leaves Welsh Water as the only economically relevant point of reference identified by Ofwat. Here we note: (i) that it is only a single point of reference, compared to many others – as set out here, such as Business Stream and the historical efficiency targets set in the water industry in England and Wales; (ii) that these relate to ‘planned’ savings, and so do not relate to actual achieved efficiencies, nor a regulatory determination based on empirical evidence; and that (iii) historically Ofwat has rated Welsh Water as being less efficient that Southern in relation to opex.

The above does not mean that Welsh Water is an irrelevant point of reference. It does mean, however, that we think Ofwat should take care in considering how much weight can reasonably be placed on it. In particular, we think it would be more appropriate to attach weight to it were it supported by actual historical achieved efficiencies, or regulator set targets, that were of a similar order of magnitude. This is not, however, the case. Further details of our review of these comparators is contained in the annex to this paper.

Summary and conclusions

In summary, this paper shows that:

- Ofwat’s proposed retail HH efficiency targets for Southern are high relative to regulatory precedent (including its own previous determinations) in both real, but especially nominal, terms.

- That regulators typically set efficiency targets within frameworks that also include an explicit assessment of inflation, also by the regulator, either through indexed prices or real price effects.

- That our review of achieved efficiencies does not suggest these are typically materially higher than targets set by regulators (although our review is not exhaustive).

- It is common practice for regulators to also take into consideration a range of factors to exercise judgement as to what proportion of any identified efficiency gap can be closed, and over what time period.

In our view, the decision to allow Southern’s input price pressure claim should not turn on demonstrating that Ofwat’s efficiency challenge is ‘excessive’. Rather, we simply take the view that efficiency and inflation should be assessed together as part of the regulatory settlement.

In that context, this report is intended simply to illustrate the potential implications of Ofwat’s current approach, in which this is not the case. Here it would seem that the most likely potential adverse consequences are: (i) efficiency targets that, in nominal terms, are extremely challenging; and / or (ii) a focus on short term (static) efficiency with some trade-off regarding dynamic efficiency. In our view, these matters merit careful consideration.
In rejecting Southern’s input price pressure claim, Ofwat stated that the company’s claim was “built on the premise that the level of catch-up it will be expected to achieve is excessive.” As we describe in the main body of our report, our position is simply that the appropriate approach to assessing input price pressure is to determine the net impact of inflation and efficiency based on the available evidence – and that this applies equally to less efficient companies.

In the above context, evidence regarding how Ofwat’s proposed retail HH efficiency target for Southern compares to targeted or achieved efficiencies elsewhere is relevant to illustrating the impact and consequences of Ofwat not explicitly factoring inflation into its efficiency framework. It is not, however, a relevant basis for determining whether Southern’s IPP claim is valid.

Notwithstanding the above, in Ofwat’s draft determination for Southern, the regulator further stated: “in coming to this conclusion [i.e. that the proposed efficiency target is not excessive] we have considered evidence on the efficiency improvements achieved by companies in other sectors, and regulatory precedent in the size of efficiency challenges given to companies.”

In light of the above, Southern asked Ofwat to provide details as to what specific evidence it had considered relating to ‘achieved’ efficiencies and ‘regulatory precedent’. Southern has advised us that in response to this request, Ofwat set out the following specific evidence:

- **Dŵr Cymru (Welsh Water’s)** self-imposed efficiency challenge of 27.4% across their retail business for the period 2013/14 to 2019/20.
- **The Office of Rail Regulation’s (ORR) final determinations for Network Rail including a 21% efficiency challenge at PR08 and a further 13% at PR13.** Ofwat specifically referred to the scale and pace of these changes being sense checked by a study carried out by BDO and CEPA, which focussed on the drivers of change in a number of companies, including tube lines, SSE administration and United Airlines making efficiencies ranging from 15% to 40% over different time periods.
- **Administered incentive pricing in the telecommunications sector – where Ofwat stated the firms were expected to adjust to significant increases in licensing fees within a period of 3 years.**

Southern therefore asked us to review the above evidence and set out our views as to its relevance to Ofwat’s proposed retail HH efficiency challenge for Southern over PR14. This annex sets out the results of our review.

In order to draw reasonable inferences regarding efficiency savings across firms or industries, it is vital that the comparators used are sufficiently similar economically. Therefore, we focus on developing evidence that assesses Ofwat’s comparators against economically relevant criteria. However, before doing this we make some specific comments regarding: (i) the appropriate hierarchy of evidence; and (ii) the administrative pricing example.

### The appropriate evidential hierarchy

Before addressing the economic suitability of comparators, it is first worth considering the hierarchy of examples referenced by Ofwat from a more evidential perspective. In particular, Ofwat’s limited examples can be categorised as being efficiencies that have been: achieved, determined by a regulator through analysis, or planned by a company (i.e. not actually achieved historically, nor determined by a regulator). Of these, we consider it problematic to attach weight to ‘planned’ efficiencies if these are not supported either by historical achieved efficiencies of a similar order of magnitude (in that same sector) or by regulatory precedent that it was based on empirical evidence.

Of the examples cited by Ofwat, Welsh Water’s planned efficiencies over the period 13/14 to 19/20 fall into the latter above category. Consequently, in our view, absent relevant supporting historical achieved efficiencies and precedent – this does not provide robust evidence to suggest that the proposed scope of efficiency savings Ofwat has set out for Southern are reasonable or achievable.

Related to the above, it is worth emphasising Ofwat’s specific wording in Southern’s Draft Determination when describing the evidence it considered. Indeed, as noted previously, Ofwat referred to efficiency savings: “achieved by companies in other sectors, and regulatory precedent in the size of efficiency challenges given to companies.” Welsh Water’s aspirational efficiency savings over the period 2013/14 to 2019/20 do not fall into either description – and so should carry relatively low weight absent relevant empirical data (discussed below).

### Specific comments on the administrative pricing example

The administered pricing example cited by Ofwat refers to spectrum. Consequently, the firms to which it relates are primarily mobile network operators (MNOs) such as Vodafone, who have to purchase spectrum in order to provide network services (note, critically, these are entirely distinct from mobile virtual network operators).

We are concerned with the way in which Ofwat has characterised this example, as it appears to reflect a misunderstanding of the basis on which such payments have been, and are, set in telecoms.
The underlying principle of setting administrative prices – which have now been usurped by annual license fees (ALF) – is that, as noted by Ofwat, they should reflect the underlying economic value of the spectrum. Thus, Ofcom’s entire approach to setting ALFs in one where by the cost of fees over time should be equivalent economically (i.e. in net present value terms) to purchasing the spectrum at auction. Therefore, should the regulator (Ofcom) determine to vary these fees, it is because its assessment is that the economic value has changed. Put simply, if Ofcom doubled the fees, it would be because its assessment was that the economic value of spectrum had doubled.

Were the above to occur, however, then the economic corollary is that MNOs would generally expect their cash flows associated with the spectrum in question to also increase (because, by definition, this is consistent with the change in value). The cash flow increase could arise from increased revenues, cost savings, or a combination of the two. However, the critical point is that it is not an increase in license fees that requires MNOs to make opex savings. Rather, the licensee fees merely reflect the underlying economic value as assessed by Ofcom – which will reflect the future expected cash flows it would generate for MNOs (which in principle could be entirely revenue driven, and thus entirely unrelated to opex efficiency).

To illustrate the above, the below figure shows the trend in Vodafone’s opex per subscriber over the ten years to 2011.

![Figure 11 Vodafone opex per subscriber](image)

Source: Economic Insight analysis of Vodafone UK accounts

As can be seen, Vodafone’s opex per subscriber has increased consistently over time. This trend is generally consistent across the four largest MNOs in the UK.

In short, without detailed analysis to show: (i) that a relevant historical decision by a regulator to amend license fees was motivated by an assessment that future operating costs would be lower; and (ii) that, in fact, the operating cost efficiencies assumed by a regulator when making such a decision were actually achieved, it is erroneous to simplistically assert that changes in license fees over time required MNOs to make equivalent operating cost savings to offset the impact.

Framework for considering comparators

Notwithstanding our specific concerns noted above, in principle we consider that evidence of actual achieved efficiencies, or efficiency targets set by regulators (inasmuch that these are also typically based on empirical analysis) may be potentially relevant points of comparison. However, when seeking to make comparisons of targeted or achieved efficiencies, it is important to apply a coherent economic framework to ensure that those comparisons are appropriate.

Economics suggests that both the scope for efficiency savings – and the speed over which they can be made – will vary considerably depending on:

- How similar the underlying activities are across the firms / industries under consideration. This is because the activities firms undertake determine their mix of inputs (e.g. the amount of staff they need, IT costs, investment requirements etc). In turn, efficiency scope and speed will vary enormously by cost type. Therefore, comparisons of efficiency savings across firms or industries with very differing activities – and therefore differing input mixes - are meaningless economically.

- How similar the asset intensity is across firms / industries under consideration. In particular, capital intensive industries tend to have a much more ‘direct’ link between capital investment and opex efficiency savings compared to non-capital intensive industries. For example, a manufacturing firm could invest in new machinery with lower ongoing operating costs – and so could drive direct opex savings through this. Here these opex reductions are often: measureable, highly certain; and begin immediately from the point at which the new machine (or other relevant asset) is put to use. Equally, existing capital assets can just be ‘sweated’ harder to drive down opex. Contrast this with a non-capital intensive firm or industry. Here there is no (or limited) scope to achieve opex efficiencies through technological investment. Instead efficiencies tend to be linked to changes in processes, which: (i) often take time to put in place; and (ii) are much more uncertain in terms of the ultimate impact on opex.

It is clear that none of the limited comparators identified by Ofwat are similar to Southern’s retail HHH business in either of the above respects – and so the comparisons are invalid from an economics perspective. The table below provides a summary of our assessment of Ofwat’s comparators against the above criteria – in the remainder of this annex we set out our reasoning and evidence in more detail (Welsh Water is excluded from the table for the reasons outlined above, although we make more specific comments on this example later).
The following table shows the results of our analysis.

### Table 5 Comparison of asset intensity across comparators cited by Ofwat

<table>
<thead>
<tr>
<th></th>
<th>SRN retail HH</th>
<th>Network Rail</th>
<th>British Airways</th>
<th>Vodafone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total assets – NBV (£m)</td>
<td>£39.820</td>
<td>£53,915</td>
<td>£11,911</td>
<td>£11,067</td>
</tr>
<tr>
<td>Rev (£m)</td>
<td>£635</td>
<td>£6,333</td>
<td>£11,421</td>
<td>£5,364</td>
</tr>
<tr>
<td>Ratio (%)</td>
<td>6%</td>
<td>851%</td>
<td>104%</td>
<td>206%</td>
</tr>
</tbody>
</table>

Sources: Southern data from 2013/14 regulatory accounts and relates specifically to household retail; Network Rail figures relate to the Group and are from the 2014 annual report; British Airways data from 2013 annual report; Vodafone data from 2012 annual report.

It is clear from the above that the comparators referenced by Ofwat are all significantly more asset intensive than Southern’s retail household business. So much so that (consistent with the economics principles we set out earlier) there is simply no credible basis for suggesting that they provide valid reference points for assessing Southern’s efficiency target. This point holds regardless of whether one is specifically considering the opex / administrative costs, because of the inherent linkages between investment and ongoing costs in asset intensive industries.

We note that Welsh Water does have a similar asset intensity to Southern (in relation to retail HH specifically). However, as noted above, here Ofwat’s example relates to neither actual achieved efficiency, nor a target set by a regulator based on empirical analysis.

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### Table 4 Comparators - framework

<table>
<thead>
<tr>
<th></th>
<th>Activities undertaken</th>
<th>Asset intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southern retail HH</td>
<td>Billing, meter reading, bad debt management, customer service provision.</td>
<td>Very low</td>
</tr>
<tr>
<td>Network Rail</td>
<td>Asset management, Network operation, Infrastructure projects, Property management.</td>
<td>Very high</td>
</tr>
<tr>
<td>United airlines</td>
<td>Asset management and operation (aircraft), investing in landing slots, scheduling, billing, customer service functions.</td>
<td>High</td>
</tr>
<tr>
<td>MNOs (administrative pricing)</td>
<td>Operating large fixed asset networks, managing spectrum, billing, customer services.</td>
<td>Very high</td>
</tr>
</tbody>
</table>

Source: Economic Insight, company websites, annual reports

### Evidence of relative asset intensity

To compare asset intensity we have calculated the ratio of total assets to revenue for Southern’s retail HH business and compared this the examples cited by Ofwat. In relation to Ofwat’s examples, we have included Network Rail (as specifically referenced by Ofwat); British Airways (as Ofwat referenced United Airlines in part to corroborate the validity of the Network Rail comparison – but United Airlines went into administration some time ago); and Vodafone (because MNOs are relevant to the administrative pricing example cited by Ofwat – notwithstanding our previous comments on this).

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Footnote: 20 Relates to fixed assets only – in Southern’s case due to retail being able to pay in arrears retail working capital will be minimal, potentially even negative. Even if retail current assets were included the implications of the comparison shown in the table would not change.
Dŵr Cymru (Welsh Water’s) planned efficiency savings

Dŵr Cymru Welsh Water (Welsh Water) has proposed a 27.4% efficiency challenge for its retail business during the period 2013/14 to 2019/20. As has been noted above, we regard planned efficiency targets as less meaningful comparators as they have neither: (a) been achieved, nor (b) been set by a regulator based on empirical benchmarking. Nonetheless, we will review it, as activity- and asset-intensity-wise, it is more comparable to Southern than any other comparators brought forward by Ofwat.

In its December 2013 Business Plan Welsh Water states that:

“...over the course of the next seven years we are aiming to deliver some £273m of further cost efficiencies, spread across our operating and capital investment activities.”27

More specifically, regarding its retail part of the business, Welsh Water states that:

“In our retail business we have identified efficiencies of £12m per annum that will be achieved in full by the middle of the quinquennium. On top of these we are projecting net efficiencies that will reduce operating expenditure by nearly £8m per annum by 2020 as a result of capital projects, notably in energy, IT, sludge, and automation/control of more of our assets. In total, we are targeting an 18% reduction in “controllable” operating costs (i.e. excluding business rates and regulators’ fees) by 2020, as compared to 2012/13).”22

Both the company and Ofwat have acknowledged that these targets are very ambitious. At Draft Determinations, Welsh Water stated that “it is exposed to substantial retail cost risk, as it views its retail efficiency target to be challenging.”23 Ofwat considers “this risk range to be plausible and in line with [its] guidance”24 (i.e. it agrees that there is substantial risk).

Furthermore, Welsh Water’s starting point is very different from Southern’s. At PR09, Ofwat classified all water companies regarding their relative operating efficiency into different bands. Southern was classified as A Upper for water and as B Upper for sewerage, whereas Welsh Water was classified as C Lower for water and as C Upper for sewerage.25 Taking these classifications as an anchor, it is reasonable to assume that a company that was in the C relative efficiency band at PR09 – such as Welsh Water - will have greater scope for achieving efficiencies than a company that is already close to the/ at the highest efficiency band – Southern Water. Welsh Water and Southern have different historical relative efficiency positions, and hence their efficiency challenges cannot (and should not) be the same. The closer you get to the highest efficiency band, the smaller the efficiency gap becomes that you have to close to frontier, and the less efficiency savings you are able to make as catch-up efficiencies.

We should emphasise that the above does not mean that Welsh Water’s planned savings are entirely irrelevant. However, in isolation – and without actual empirical evidence of achieved or regulator set – efficiencies in comparable industries, we consider that alone this is not sufficient to determine that the implied efficient target for Southern is appropriate.

Conclusions and findings

Based on our review of the evidence regarding Ofwat’s comparators, as set out in this annex, we find the following.

» From an economics perspective, comparisons of achieved and targeted efficiency across firms and industries are only likely to be valid if: (i) the activities undertaken are sufficiently similar such that the mix of input costs will also be similar; and (ii) asset intensity is sufficiently similar such that the linkages between capital investment / technology and operating cost efficiencies are likely to be similar.

» Against the above two criteria, the evidence clearly shows that: Network Rail; United Airlines; and MNOs (as implied by Ofwat’s reference to administrative pricing) are irrelevant to a consideration of an appropriate efficiency target for Southern’s retail HH business.

» Given the above, the only comparator identified by Ofwat that meets these criteria is Welsh Water – and its planned savings over the next regulatory period.

» The problem with the Welsh Water example is that the efficiency figure quoted by Ofwat does not reflect any actual achieved efficiency savings in water retail; nor does it reflect a regulator’s own efficiency assessment – rather it is simply a company’s own assessment – which itself is described by the company as “challenging”.

» This is not to say that the Welsh Water example cited is irrelevant, of course. However, it does mean that it is a single reference point – and so care should be taken in drawing inferences when assessing an appropriate efficiency target for Southern.


24 Ibid ibid.

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This report sets out our review of Ofwat’s approach to retail input price pressure – both generally for the industry, but more specifically in relation to Southern Water’s cost adjustment claim. Our key observation is that we do not consider the upper quartile test to be an appropriate basis for considering input price pressure claims, as it suggests a binary link between inflation and efficiency.

Introduction and executive summary

Under the new regulatory framework for PR14, Ofwat has removed any automatic link between prices and inflation for the retail controls. Instead, Ofwat’s position has been that it is for companies to demonstrate that retail inflation (referred to as input price pressure) should be allowed for in prices.

In its Final Business Plan, Southern Water (Southern) submitted a claim for an upward adjustment to its allowed retail costs to reflect input price pressure amounting to £12.9m. This claim was rejected by Ofwat in its August Draft Determination for the company.

In the above context, Southern asked Economic Insight to undertake a detailed review of Ofwat’s entire approach to retail input price pressure, both with regard to: (i) the regulator’s general framework, and approach; and (ii) its methodology and ‘in practice’ implementation of that methodology.

Our primary observation is that we do not consider Ofwat’s upper quartile test to be consistent with what would occur in a competitive market – and so we do not think it is an appropriate basis on which to consider allowing or disallowing Southern’s input price pressure claim. We expand on our reasoning in the following.

From an economics perspective, the issues of inflationary pressure and efficiency are closely linked. However, and importantly, this link is not binary. Put simply, while in a competitive market, a perfectly efficient firm would pass on 100% of any input inflation to end prices, it is incorrect to suppose that a firm that was not perfectly efficient – or in this case not upper quartile – would pass on 0%. Instead, the extent of any pass on would reflect the relative efficiency of firms, so that those less efficient than frontier firms would pass on only the amount of input price pressure they could not absorb through efficiency savings.

The rationale for the above is that (in a competitive market) firms cannot price above the competitive level. Therefore, if a firm was (to whatever extent) inefficient, it would still pass on inflationary pressure to its prices, but would do so only up to the point where its price was equal to that of the efficient firm. That is, not all of the inflation would feed through to prices. Therefore, simply, in a competitive market the amount of inflationary input price pressure a company can pass on turns critically on both:

- the gross inflationary price pressure it faces; and
- its relative efficiency.

In our view, both the extent of efficiency and inflation are empirical matters that can be tested with data. This is the basis on which we therefore believe input price pressure claims should be assessed, rather than applying a form of threshold.

The above approach would ensure that the appropriate ‘net’ amount of input price pressure was allowed – in that it would properly reflect the extent to which companies could absorb inflationary pressure by making efficiency savings. This would, quite rightly, ensure that less efficient firms would be
allowed less input price pass through, and would instead need to absorb a greater proportion of inflation than more efficient firms.

The problem with Ofwat’s upper quartile test is that, on one hand is recognises the link between efficiency and inflation (i.e. Ofwat is effectively setting a cost threshold above which inflationary claims will not be considered) yet at the same time ignores the link if the threshold is not met. This ‘binary’ approach raises difficulties when one considers the clear implications. Specifically, companies just within the upper quartile will have input price pressure claims considered by Ofwat on the basis of their net inflation and efficiency position. However, other companies – even those just outside of the upper quartile (with a similar relative efficiency position) would have no allowance for inflationary pressure at all. Instead such firms will have to fully absorb all input price pressure over PR14.

Following from the above, we would highlight the fact that Southern’s claim reflected an assessment of its net inflation and efficiency position, consistent with economic theory. In particular, it was consistent with the company being able to achieve efficiency savings that are greater than the inflationary pressure it faces – and so still translated to falling costs in real terms.

In summary, therefore, our central point is the upper quartile threshold should not be used as the basis for determining whether to allow Southern’s claim or not. We further have some more minor observations regarding the overall approach to considering net input price pressure.

The remainder of this report is structured as follows:

- A summary of Ofwat’s approach to input price pressure.
- Our review of Ofwat’s approach.
- Our review of Ofwat’s implementation of its methodology in relation to input price pressure (as set out at Risk Based Review and in the Draft Determinations).
- An evaluation of Southern’s position and evidence.
- Finally, a summary of our overall conclusions.

**Summary of Ofwat’s approach to considering retail input price pressure**

To inform our review, we have examined Ofwat’s statements and position regarding input price pressure inflation for retail – in particular, its: *Future Price Limits*, *Price Control Methodology* consultations; and its *Final Methodology Statement*. In the following we therefore summarise Ofwat’s publically stated position in relation to its approach and framework for input price pressure. We subsequently address how Ofwat has implemented its methodology in practice, by reviewing its position at both Risk Based Review (RBR) and the Draft Determinations.

In its *Future Price Limits* consultation, Ofwat set out the following of relevance to the potential allowance for inflationary pressures within the retail controls:

> “Consistent with the current approach, the wholesale revenues will be indexed to RPI and passed through to customers by the retailer. Investors welcomed this link to RPI where there is a high level of asset intensity. But retail is an asset-light business in which we are seeking to encourage contestability. Retailers in competitive markets do not have inflation protection through an automatic adjustment to revenues from RPI, although they do have the freedom to adjust the price of goods or services sold.”

We question whether it is appropriate to assume that the default tariff for the contestable customer base and the average cost to serve for the non-contestable customer base should be protected by an RPI cost pass through. We recognise that any approach to indexation of revenues must be consistent with the approach to cost assessment. For example, where retail costs are not linked to RPI, it may not be appropriate to assume retail cost efficiencies in the price limit. On the other hand, protection through RPI clearly would imply a need for us to continue to set an efficiency target for retail activities.”

With regard to the *Price Control Methodology* consultation, Ofwat set out the following:

> “But retail services alone require a very different mix of costs compared with wholesale, a much lower proportion of capital costs. They also have assets with much shorter lives and existing retail assets in the RCV have been allocated to the wholesale price control, which will continue to have RPI indexation. So, we do not consider that RPI indexation would be appropriate for the household retail control – and note that this would be in line with the experiences of most retail businesses, across the economy.

We expect retailers to manage emerging cost pressures actively by seeking lower costs and optimising their mix of retail inputs, as all retail business in other sectors would. For example, IT systems tend to both fall in cost over time and increase in capability allowing retailers to maintain or improve service at lower cost. We note that some water companies make use of outsourcing and this model is also extensively used to provide retail services in other sectors. We would expect efficient retailers to innovate and actively consider alternative means of

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providing retail services and so identify scope to reduce costs and (or) improve services.”3

Within the Price Control Methodology consultation, Ofwat also set out its three options for addressing retail input price pressure within the new regulatory framework:

“In many respects, the issues we need to consider in relation to uncertain cost inflation are similar across the two retail controls. One key difference is the impact of competition – companies will have a stronger incentive to minimise the cost that is passed onto customers. We consider there are three options to address uncertain and uncontrollable price pressures within the non-household control [note, Ofwat reads this point across to the HH control]. These are:

(i) no explicit allowance for input price inflation, based on an assumption that companies can control and manage all the relevant risks;

(ii) to ensure that the non-household retail control over the period 2015-20 has sufficient net margin to cover the risks of unexpected uncontrollable changes in input prices; and

(iii) a pre-set measure that reflects the future changes in relevant efficient costs of a retailer providing non-household services.”4

In its Final Methodology Statement (which followed the methodology consultation), Ofwat stated that:

“In the methodology consultation, we explained why we do not consider RPI indexation would be an appropriate mechanism for reflecting uncertain and uncontrollable input price risks in retail controls (including the non-household control).

We remain of the view that RPI indexation is not appropriate for the non-household retail control, which is consistent with our approach to the household retail control. Indeed, we have not been able to obtain any evidence to suggest that there are material non-household retail input price pressures that are beyond companies’ reasonable control.”5

In its Final Methodology Statement, Ofwat reassessed its position that it would not allow any automatic pass through of retail related inflation to prices. However, it indicated that adjustments to allowed retail costs (i.e. the average cost to serve) would be considered for factors that met the following three criteria:

– “has a material impact on their costs;
– is beyond management control (having taken all possible steps to control it); and

– impacts the company in a materially different way to other companies.”6

As the above criteria apply to all company applications for retail cost adjustments, they therefore apply in relation to companies making claims for retail input price pressure.

Our review of Ofwat’s approach

We have a number of observations regarding Ofwat’s stated position regarding input price pressure within the context of the retail HH control. These are as follows.

The intrinsic link between inflationary pressure and efficiency

Based on the statements it has made, Ofwat’s ‘in principle’ rationale for not allowing input price pressure in retail HH appears to rest on the view that: (i) retail is a more asset light activity than wholesale; and / or (ii) retail is sufficiently inefficient as a function such that any input price pressure can be absorbed by the companies. We do not consider the former to be a directly relevant consideration. The latter is a matter of empirical evidence.

In its Future Price Limits consultation, Ofwat explicitly accepted the link between efficiency and allowing for input price pressure, stating that: ‘where retail costs are not linked to RPI, it may not be appropriate to assume retail cost efficiencies in the price limit. On the other hand, protection through RPI clearly would imply a need for us to continue to set an efficiency target for retail activities.” The link between efficiency and the ability of companies to absorb input price pressure is, in our view, the fundamental issue for consideration here. Regarding this we note:

– That Ofwat’s statement is consistent with the view that, were retailers already efficient, then the effect of input price pressure (inflation) should be allowed for in regulatory determinations.

– However, in practice, Ofwat has set an efficiency challenge for retail HH based on the ACTS methodology, and yet has not included any allowance for inflation within the retail HH control. This would seem to be contrary to its own statements that to do so would be inappropriate (note, the actual relative efficiency position of any individual company, such as Southern, is wholly irrelevant to this point of principle).

Ofwat’s implementation of its method – at both RBR and in the Draft Determinations – is also consistent with the fact


6 ‘Setting price controls for 2015-20 – final methodology and expectations for companies’ business plans,’ Ofwat (July 2013).
that the regulator takes the view that inflation and efficiency are connected – we discuss this subsequently.

If one accepts that there is an intrinsic link between the need to allow for input price pressure and an assessment of efficiency – it seems to us that this link is non-binary. That is to say, whilst it would be correct to conclude that a perfectly efficient firm (i.e. a firm at the efficiency frontier) would pass on 100% of input price pressure to customers, it is incorrect to suppose that any firm that was not perfectly efficient (even if was very close to the frontier) would pass on 0%. Rather, the extent of pass on should depend on the relative efficiency of firms, so that firms that are less efficient than the frontier would pass on only the proportion of input price pressure that could not be absorbed through efficiency savings.

The economics rationale for this is that, in a competitive market, firms could not charge above the competitive price. Therefore, if a firm was (to some degree) inefficient, but faced similar inflationary pressures to an efficient firm, it would still pass those cost pressures onto its end prices, but only up to the point where its price was equal to that of the efficient firm (i.e. not all of the inflation would be passed on). Put simply, in a competitive market the quantum of input price pressure that a firm passes on to end prices depends on both: (i) the gross input price pressure it faces; and (ii) its relative efficiency – as illustrated in the following figure.

Figure 1 Illustration of expected inflation pass on in competitive markets

<table>
<thead>
<tr>
<th>Inefficiency</th>
<th>Competitive market price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net price increase</td>
<td>Inflationary cost pressure</td>
</tr>
</tbody>
</table>

Both the extent of efficiency and inflation are empirical questions, which can be examined and tested with data and analysis. Indeed, and as set out subsequently, this is the very basis of the evidence Southern developed to support its claim.

Consistent with the preceding therefore, our main observation regarding Ofwat’s approach to input price pressure is that it is setting companies an efficiency challenge without explicitly taking inflationary pressure into account. Relatedly, the approach indicates that, despite the presence of efficiency targets, Ofwat will only consider allowing for inflation in retail where a company can demonstrate that it is already ‘efficient’. This does not reflect the fact that both efficiency and inflation are on a continuum.

We suggest that, in line with Ofwat’s previous statements during the methodology consultation process, there seem to be two approaches that would be internally consistent:

» An approach that includes both efficiency targets and allows for input inflationary pressure.

» An approach that excludes both efficiency targets and inflationary pressure.

Which of the above approaches is most appropriate would turn on the relevant evidence. The difficulty raised by Ofwat’s approach is that, by setting efficiency targets without allowing for inflation (or at least only allowing for inflation subject to certain conditions that make it binary – specifically the upper quartile test) it is implicitly assuming that the extent of inefficiency is sufficient so that all inflation can be absorbed. However, the overall approach does require Ofwat to assess whether this is, in fact, the case.

Further, notwithstanding the absence of an explicit empirical assessment of both inflation and efficiency simultaneously within the approach, there does not appear to be any strong ‘in principle’ reasons to suppose that the extent of inefficiency in water retail is so much larger than in water wholesale so that all inflation can be absorbed in the former. Indeed, historically the entire value chain has been subject to Ofwat’s efficiency framework.

Input price pressure can vary materially across equally competitive industries

Following from the preceding, we now consider Ofwat’s statement that: “Retailers in competitive markets do not have inflation protection through an automatic adjustment to revenues from RPI, although they do have the freedom to adjust the price of goods or services sold.” This is obviously correct. However, in a competitive market, economic theory would suggest that the totality of inflationary cost pressure would be passed onto end prices (assuming it impacts the marginal cost of production – and that being perfectly competitive, firms are efficient – noting that as above, should firms not be perfectly efficient the degree of pass through is then limited to the competitive market price).

Here our view is that it is important to understand that the above issues (regarding the economics of competitive rivalry and cost pass through) are entirely separate from the fact that both the level and nature of input price pressure / inflation can vary considerably across industries.

That is to say, in a competitive market in which input cost pressure is very low, prices would only rise modestly to reflect that, whereas in competitive markets where input costs are rising sharply, so too will prices (all else equal). Put
simply, it is possible to identify examples of industries considered to be competitive in which price inflation appears low or negative, but equally possible to identify competitive industries where price inflation appears to be very high. To illustrate this, the following figures show annual production inflation (the UK producer price index) for Q2 2014 split by industry, and the annual retail rate of inflation for June 2014 across individual items within the ONS’ basket for RPI.

Figure 2 Annual producer price inflation by industry as of Q2 2014

![Annual producer price inflation by industry as of Q2 2014](image)

Source: ONS

Figure 3 RPI for June 2014 by individual item

![RPI for June 2014 by individual item](image)

Source: ONS (labels not shown for readability)

The data shows that there is considerable variation in both producer (i.e., input) price inflation and retail inflation across industries / specific items. For example, the annual rate of producer price inflation varies from 12% for the hotel industry to negative values of between -1% and -13% for industries such as computer services, music recording and the recovery of materials. Similarly, individual items within RPI vary enormously, from between +14% to -11%.

The implication of the above is that Ofwat’s statement that in competitive markets firms are not ‘protected’ from inflation may be correct, but it is also of no direct relevance. Both high and low (or even negative) inflationary pressure is consistent with competitive markets – the common feature is that the intensity of competition would lead to that cost pressure feeding through to prices. For example, the airline industry is widely regarded as being highly competitive – and various published analyses suggests that airlines struggle to earn their cost of capital. Yet the ONS data shows its producer price pressure is currently running at 5% pa and ONS CPI data indicates that airfare price inflation has averaged just over 6% pa for the first two quarters of 2014 (and in fact peaked at c. 20% for Q2). In this case therefore, end price movements are consistent with input price pressure being passed through.

The implications of the above for Ofwat’s approach are:

» That if the rationale for not allowing inflationary pressure in water retail is in some way linked to an observation that in some retail markets (which Ofwat regards as competitive) there has been low inflationary or even falling prices, this may be mistaken. Those same industries may, in fact, just have low or falling input price pressure, and therefore the observation would be entirely consistent with price pressure feeding through to end prices.

» Secondly, it also implies that, whilst within an industry one might generally expect inflationary pressures to be similar, one cannot assume that inflation across industries is necessarily similar. Therefore, examples of low price pressure in certain retail segments are not relevant to the key question here; which is: what is the level of input price pressure faced by water retailers?

The above, of course, goes to a further important issue – that the extent of inflationary pressure firms face will depend on their mix of input costs (as some inputs are more subject to inflation than others). In this regard, we recall Ofwat’s statement in its Price Control Methodology consultation that: “IT systems tend to both fall in cost over time and increase in capability allowing retailers to maintain or improve service at lower cost.” The statement was given by Ofwat as an example of how retailers in other sectors can manage costs. However, what matters here is what the relevant mix of input cost factors are for water retail and what inflationary pressure is for these. In actual fact, IT represents a relatively small proportion of the water cost mix. Indeed, across the industry it is estimated to account for only 10% of costs, and in many cases is likely to be lower.

8 Specific ONS variable code analysed: CPI Index 07.3.3: Passenger transport by air.

9 Of course, numerous factors can influence end prices – and so the above data does not prove that, in the case of airlines, input price pressure is being passed through – rather, it merely demonstrates that both input price pressure, and retail inflation are observable in a market widely considered to be competitive.

Further to the above, the vast majority (80%) of the water retail cost mix is accounted for by bad debt and labour – and a range of publically available data is available to demonstrate the relevant inflationary pressures relating to these (such as that included within Southern’s claim, for example). Here the key point is quite simply that the observations that some retail segments in the economy might face low (or, indeed, high) input cost inflationary pressure is not relevant. What is relevant is the likely inflation that will apply to the input cost mix of water retailers.

The question of who bears inflationary risk should be reflected in the approach to setting margins

In its Final Methodology Statement, Ofwat determined (as noted above) that it would not allow for inflationary pressures within the retail controls. Of the three options it consulted on for addressing input price pressure, it would appear that Ofwat selected Option 1, which as stated previously was described as follows: “no explicit margin for input price inflation, based on the assumption that companies can control and manage all the relevant risks.”

Ofwat’s above statement indicates that it accepts that the assessment of the appropriate margin for retail should be made in the context of whether inflationary risk is, or is not, being included. This is an important issue because within any regulatory framework judgements must be made about who is best placed to manage, and therefore bear, risk. For example, under cost pass-through regulatory models, equity investors in regulated firms bear no risk in relation to outturn operating costs; whereas under allowed revenue controls (such as those that apply in the water and sewerage industry in England and Wales) equity holders bear the risk of outturn operating costs varying from those allowed for within a price control.

For this reason, all else equal, the cost of equity (i.e. the return that equity holders require) will tend to be higher under a revenue control model than under a cost pass-through model (this is a non-contentious point, and there is substantial regulatory precedent and academic literature to evidence this, which we summarise later). Ofwat’s approach of not automatically allowing for input price pressure effectively removes an element of cost that was historically “passed through” to prices and transfers that risk to equity.

Here we note the following:

» That in setting the retail HH net EBIT margin, Ofwat does not appear to have set out any evidence or discussion as to whether or not a consideration of inflation risk being born by equity has been taken into account in setting the level of the margin. Of course, the fact that such a discussion is absent from Ofwat’s published documents does not mean that the regulator did not take such matters under consideration.

» That under the regulatory determinations on which Ofwat relied in setting the retail HH margin, equity did not, in fact, bear inflationary risk (because inflation was allowed for at the retail level in those same determinations). In other words, at face value there may be an inconsistency in Ofwat’s decision to transfer additional opex risk to equity and the basis on which it set the retail HH margin.

» That as a consequence of these issues, all else equal, equity investors in retail will generally expect higher returns than would have been the case if inflation had been passed on, which would seem to imply that: (a) without any change in approach, this might dampen the attractiveness of retail to equity (because the margin may not adequately reflect the risks they will actually bear) thus investment in retail will be below its efficient level; or (b) in the long run, customer bills will have to rise (through some mechanism other than the margin, if this is not adjusted) to compensate for this matter. Note, in relation to all of the above, it is important to be aware that the fact that Ofwat is setting allowed returns for retail on a net EBIT margin basis is irrelevant to the fact that conceptually, the margin is providing a return to investors.

We should emphasise that the above points are non-contentious in economics, and that they are reflected in a number of regulatory determinations. For example, in determining the appropriate approach for considering applications for the Gas to the West Pipeline, the Northern Ireland Authority for Utility Regulation (NIAUR) implemented a risk adjustment factor to the WACC of applicants of 0.22 basis points to reflect: “variations in the level of risk borne by investors in each model.” Where (and of direct relevance here) NIAUR was specifically referring to the difference between ‘revenue cap’ models (in which equity bears opex risk) and ‘cost pass through’ models (in which it does not). The NIAUR further noted that the adjustment factor could be as high as 0.53 basis points.

Whilst inflation will not be the only driver of opex volatility in retail – it is likely to be a significant one. Therefore, the above evidence clearly shows that the impact on equity of inflation risk being transferred could be material. Furthermore, various academics have long recognised the inflation / opex and equity risk relationship – see Jenkinson (2006) and

11 In particular see ‘Water retail net margins: a report prepared for Ofwat,’ PwC (2013) pages 12-15 – and also Ofwat’s Risk and Reward Guidance, neither of which discuss this subject.
12 See table 4 of PwC’s report for Ofwat. Note, the fact that PwC also undertook a ‘bottom up’ assessment of retail margins using a nominal WACC that incorporated inflation is wholly irrelevant to this point – not least because an appointee level (rather than retail) WACC was used – but also because Ofwat relied upon the precedent.
13 ‘Gas to the West Licence Applications: Consultation on Provisional Decisions,’ NIAUR (August 2014).
A review of the relevant literature is included in the Annex to this paper.

Our final point regarding Ofwat’s overall methodology and approach relates to the ‘three step’ test it set out in its Final Methodology Statement; that to allow any cost adjustment, the factor in question must be: material, beyond management control, and affect the company in a different way to others. Regarding these tests we make the following points:

- That the materiality threshold arguably gives rise to an inconsistency because of the inherent link between inflation and efficiency. Any company above Ofwat’s ACTS threshold has an efficiency challenge applied - with no consideration to ‘materiality’, but yet inflationary cost pressure can only be allowed for where a company can demonstrate its materiality.

- That the relevance and interpretation of the final leg of Ofwat’s test: “impacts the company in a materially different way to other companies” is somewhat unclear in relation to price pressure and could, therefore, be questioned. That is to say, whilst efficiency might vary materially across companies, given they are likely to use a relatively similar mix of inputs, one would not expect the amount of gross input price pressure to vary materially across them. Therefore, we consider that an interpretation of the test that requires a company to show that it has materially greater gross input price pressure relative to other companies, would be questionable. The issue being that the gross price pressure is likely to be relatively common. In that sense, a company that was much less efficient than another would be affected by input price pressure in a materially different way – and this would be reflected in its input price pressure claim being materially smaller.

**Ofwat’s implementation at RBR and in Draft Determinations – and our review**

In this section we summarise Ofwat’s ‘implementation’ of its approach, as set out in its RBR and Draft Determinations, and our review of this.

**Ofwat’s implementation at Risk Based Review – and our review**

In its RBR assessment, Ofwat stated that no companies had provided sufficient evidence with regards to input price pressure claims – and so rejected them all. Across Ofwat’s published feedback, the regulator identified a number of specific issues that explained why it had taken this view. The four main reasons cited by Ofwat for rejecting company claims for inflation were:

- A lack of benchmarking evidence to demonstrate that companies are efficient relative to ‘within industry’ comparators.
- A lack of benchmarking evidence to demonstrate that companies are efficient relative to ‘wider industry’ (i.e. non-water) comparators.
- The basis for forecasting inflation was not appropriate in all cases (for example, Ofwat suggested using occupation specific measures for wage inflation, rather than overall UK wage inflation).
- Insufficient evidence to indicate that the cost pressure is outside of management control.

Ofwat also, at the time of RBR, made reference to certain companies choosing to withdraw their input price pressure claims – and cited this as evidence that those companies must have believed that any inflationary cost pressure could be absorbed.

**Our review of Ofwat’s implementation at Risk Based Review**

The key point we wish to highlight regarding the feedback Ofwat gave companies at RBR was that, again, this seems to be consistent with Ofwat accepting that there is a link between inflation and efficiency. That is to say, Ofwat rejected many claims on the basis that insufficient benchmarking evidence had been provided to demonstrate that they were efficient. The obvious inference being that Ofwat accepts that the need to allow for inflationary pressure must, by definition, depend on ‘how’ efficient the companies are. In this regard we therefore note that:

- within the RBR process, Ofwat did not itself set out its own evidence regarding either inflation or efficiency with regards to retail; and
- that the implementation of its method was ‘binary’ in the sense that it was not seeking to quantify the ‘amount’ of efficiency and inflation for the companies and identify the appropriate net figure – but, rather, appeared to be only considering the allowance of inflation pressure in instances where a company could ‘prove’ that it was already efficient (however defined).

With regard to Ofwat’s statements regarding certain companies voluntarily choosing to drop their input price pressure claims, we think care should be taken. In particular:

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15 [A study into certain aspects of the cost of capital for regulated utilities in the UK], Wright, Mason, Miles. CEPR / OFT / various regulators (2003).

16 See slides from ‘Ofwat Retail Workshop,’ (April 2014).

17 See ‘Element categorisation scorecards,’ For individual companies – Ofwat (April 2014).

18 For example, see: ‘May draft determinations analyst and investor call Speech made by Sonia Brown, Chief Regulation Officer,’ Ofwat (30 May 2014).
- regulatory settlements should be considered in totality, and so other companies may be of the view that, in their particular circumstances, the downside of not having retail HH input price pressure included in their determination is mitigated by other areas of upside; and
- in any event, even if some companies are of the view that retail HH input price pressure can be absorbed, this does not necessarily mean that in practice it will be.

In relation to the second point, we would emphasise that ultimately, it is equally important to ensure that companies claiming to be able to fully absorb inflation are, in fact, able to do so. This is because the consequence of companies saying that they can fully absorb input price pressure (but without detailed, robust evidence to support that view) could be that their retail HH functions might be unexpectedly loss-making in future. This could be characterised as a regulatory failure risk, which should be of concern to both the industry and Ofwat.

**Ofwat’s implementation at Draft Determination**

A total of 10 companies put forward cost adjustment claims relating to input price pressure in retail HH within their Final Business Plans. Of these, Ofwat accepted just one claim – from Yorkshire Water – and rejected the remaining 9. We subsequently address specific feedback given to Southern, but here we focus on the key themes of Ofwat’s implementation of its approach in making these Draft Determinations.

Whilst a range of reasons were cited for rejected company claims for input price pressure, these generally fell within the following areas:

- Companies had provided insufficient benchmarking evidence to demonstrate that they were efficient retailer[s] (where in various cases Ofwat cited either the lack of within industry benchmarking, or wider industry benchmarking).
- That companies were not ‘upper quartile’ with respect to one of either unmetered or metered cost to serve.
- That companies had not provided sufficient evidence with regard to their cost management practices to demonstrate that they were doing everything possible such that future cost increases were outside of management control.

In some specific instances Ofwat also indicated that it had rejected claims due to the view that the method of calculation was not appropriate. Issues noted by Ofwat included: (i) not using appropriate inflation assumptions; (ii) TFP savings not being suitable; and (iii) assumed catch up efficiency not being appropriate.

**Our comments on Ofwat’s implementation at Draft Determination.**

With respect to Ofwat’s overall implementation of its approach to input price pressure at the Draft Determinations, our first observation is that the regulator appears to have introduced a new ‘test’, not set out in either its prior methodology statement, nor in its consultations regarding its methodology for PR14.

Specifically, in its Draft Determinations, Ofwat appears to have taken the position that, unless a company is ‘upper quartile’ with respect to its retail cost to serve, it will not be allowed any retail input price pressure (i.e. Ofwat will not consider any claim if a company does not meet this threshold). The practical consequences of this implementation are as follows:

- Consistent with our earlier comments, it would appear that ‘in practice’ the regulator is adopting a binary approach to assessing inflation – either allowing it or not allowing it – depending on whether a company meets a definition of being ‘efficient’, rather than considering both efficiency and inflation as continuums. Relatedly, for several companies, Ofwat’s statements that that they failed to demonstrate that they are “an efficient retailer” are also consistent with this (i.e. rather than considering efficiency as a continuum where some companies are more or less efficient than others, and therefore more or less able to absorb inflation, the hurdle appears to be one of demonstrating that they are efficient relative to some absolute measure).

- That the application of this binary approach is itself inconsistent in the sense that, being above the threshold seems to imply that Ofwat will not allow any inflation pressure under any circumstance – but being below it does not mean that a company will definitely be allowed inflation either, merely that Ofwat will consider it. This is evident from the fact that some companies met the upper quartile test (for example, Bristol with respect to its unmetered cost to serve), but still had their claims rejected. Thus, from the determinations it seems that the upper quartile test is a “necessary but not sufficient” condition of being awarded a claim.

- We are not aware of any analysis or evidence that would suggest that all firms above the upper quartile can fully absorb all inflationary input price pressure.
Our review of Ofwat’s position specifically in relation to Southern

In its Draft Determination, Ofwat rejected Southern’s input price pressure claim. In doing so, the regulator made the following statements:

“Southern Water does not show that these costs are outside of efficient management control or demonstrate that it is affected in a materially different way to other companies.

Overall we do not consider that the evidence provided on management practices is sufficient and convincing that the company manages its costs to the extent that future cost increases are outside of efficient management control.

Southern Water’s evidence on relative efficiency, including benchmarking, shows that Southern Water is inefficient.

Southern Water’s argument is built on the premise that the level of catch-up it will be expected to achieve is excessive. We do not consider this to be a convincing argument that the company is affected in a materially different way to other companies. In coming to this conclusion we have considered evidence on the efficiency improvements achieved by companies in other sectors, and regulatory precedent in the size of efficiency challenges given to companies. This evidence shows that efficiency improvements of a similar magnitude have been achieved by other companies and so we conclude that the catch up efficiency challenge proposed for Southern Water is not excessive.

Southern Water’s evidence to support the size of the adjustment is based on its argument regarding the relative catch-up efficiency and so we do not consider this to be an appropriate method of calculation.”19

Our observations in regard to Ofwat’s feedback to Southern at Draft Determination

We now set out our thoughts specifically relating to Ofwat’s feedback to Southern. Here, we would make the following observations.

» Ofwat’s statement that Southern’s own evidence shows that it is “inefficient” is correct (in a relative sense). However, Southern’s input price pressure claim was not based on any arguments that it was perfectly efficient, or ‘efficient’ in some other absolute sense. Rather, its case was simply that it should be allowed the net impact of both inflation and efficiency, which should properly reflect the fact that it is less efficient with respect to retail than other companies. This ‘net’ impact can, and should, be assessed empirically, and Southern provided a range of evidence on this.

» Further to the above, Southern was not arguing that inflationary pressures were sufficient to justify rising prices. In fact, Southern’s evidence was that its inefficiency was greater than the input price pressure it faced – and accordingly its claim still translated to real terms cost reductions in retail of 2.1% pa.

» Ofwat’s statement that Southern’s claim is based on an argument that the regulator’s ACTS challenge is ‘excessive’ is partially correct. The question of whether inflationary pressure should be assessed with evidence when setting efficiency targets is the central issue here – in our view, it should be. What Southern chose to highlight in its claim was that, an approach whereby inflation is not factored into efficiency targets may result in those targets being either challenging or ‘sub optimal’ from an economics perspective.

A summary and review of Southern’s evidence

In addition to reviewing Ofwat’s approach, method and implementation with regard to retail input price pressure, we have critically reviewed the company’s position – taking into consideration the nature of evidence typically deemed to be appropriate in previous determinations. Here the objective is simply to provide a perspective as to what might be ‘reasonable and robust’ to support a claim. In the following therefore, we briefly summarise Southern’s evidence and position; and then compare this to the evidential threshold typically required in determinations. In this case, we specifically use the Competition Commission’s determination for Bristol Water as a reference point, as this made reference to various categories of evidence relevant to Southern’s input price pressure claim.

Brief summary of Southern’s position and evidence

Consistent with economics theory and Ofwat’s framework, we suggest that there are three key issues which must be evidenced to support an input price pressure claim:

- the extent of gross input price pressure a company faces;
- the extent of ‘catch up’ efficiency savings it can make, relative to some form of efficiency frontier; and
- the extent of ‘frontier shift’ related productivity savings it can achieve.

In Southern’s Final Business Plan, its assessment of an appropriate adjustment factor for input price pressure was based on evidence that included:

» A detailed, and highly disaggregated approach, to considering its gross inflationary pressure. This included forecasting inflation separately for 10 individual cost categories within its retail function, based on Government data and a particularly disaggregated approach for forecasting staff cost related inflation (which was one of

the ten categories). In this area, Southern’s evidence was based on creating a Southern specific staff cost index, based on mapping individual staff roles to occupational level wage data, then forecasting forward using OBR forecasts. Seven categories of retail staff roles were individually identified for this purpose.

» To support its assessment of the ‘catch up’ efficiency savings it could achieve, Southern provided benchmarking evidence using a range of methodologies. These included: (i) unit cost analysis; (ii) econometric within industry benchmarking; and (iii) wider industry benchmarking.

» To support its assessment of the appropriate ‘frontier shift’ related savings Southern provided evidence from the EU KLEMS dataset relating to TFP savings (this is a widely used dataset for these purposes).

Taking the above into account, Southern’s view was that it could reduce its retail costs (in real terms) by 2.1% pa over the regulatory period – and it therefore submitted a claim on this basis. In other words, Southern’s claim reflected its assessment that it could make efficiency savings greater than the inflationary pressure it faced.

**Assessment of Southern’s position and evidence relative to previous determinations**

In the table overleaf we have assessed Southern’s evidence in relation to the key components of its input price pressure claim against what the Competition Commission considered to be acceptable in its determination with respect to Bristol Water. This is done merely to provide a further perspective as to the nature and scope of evidence provided by Southern to date in relation to this issue.
Table 1 Assessment of Southern evidence relative CC’s determination for Bristol Water

<table>
<thead>
<tr>
<th>Issue</th>
<th>CC determination</th>
<th>Southern’s approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evidential basis for determining appropriate opex efficiency</td>
<td>The CC determined that Ofwat’s opex OLS econometric models were an appropriate basis for assessing efficiency. This is despite the fact that Bristol Water argued that there were flaws in the econometric models.</td>
<td>Southern’s efficiency evidence includes benchmarking based on an econometric model that we consider to be at least as robust as those historically relied upon by Ofwat to benchmark opex in the industry.</td>
</tr>
<tr>
<td>Whether wider benchmarking is required</td>
<td>The CC determined that Ofwat’s approach was sufficient, even though Bristol Water argued that wider benchmarking techniques should have been used.</td>
<td>Consistent with feedback from RBR Southern’s benchmarking evidence, included wider sector comparators – and therefore, it went further than the CC considered sufficient in assessing efficiency.</td>
</tr>
<tr>
<td>Projecting input price pressure over the control period</td>
<td>The CC stated that it would be inappropriate to assume that historical inflation would persist, and that forecast information should be taken into consideration when projecting input price pressure.</td>
<td>Southern made use of independent, credible forecasts for key inflation metrics – and used these to project forward detailed input price measures.</td>
</tr>
<tr>
<td>Projecting the bad debt element of input price pressure</td>
<td>The CC stated that: “We did not have historic data for these [bad debt and environmental charges] cost components. We assumed that they will increase over the price period in line with the RPI-measured inflation. Both Ofwat and First Economics made similar assumptions.”</td>
<td>Southern’s input price pressure claim was in relation to costs excluding bad debt. However, we understand that separately Southern based its projections of bad debt on detailed econometric modelling. A more simplistic RPI approach – as previously relied upon by the CC, would increase the size of its claim.</td>
</tr>
<tr>
<td>Total factor productivity savings</td>
<td>Decision consistent with EU KLEMS being the appropriate data source. Based on specifically identified sectors and sub-sectors.</td>
<td>Southern’s TFP assumptions used EU KLEMS data based on private sector as a whole. The assumption is most likely more aggressive than a sector or sub-sector specific measure.</td>
</tr>
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</table>

Overleaf we set out a summary of our conclusions and observations.
Conclusion and summary

In conclusion, our primary observation is that we do not think the upper quartile test represents an appropriate basis on which to allow or disallow input price pressure claims. In particular:

» Whilst Ofwat recognises the connection between inflation and efficiency, it is not treating these as ‘continuums’, but rather appears to only be allowing for inflation in a fairly binary way. The risk is that this creates an internal inconsistency in Ofwat’s approach, which Ofwat itself seemed to have identified in its methodology consultations (i.e. that setting efficiency targets without an inflation allowance may not be appropriate).

» Related to the above, it is critical that inflationary cost pressures are properly assessed for companies irrespective of their relative efficiency position. That is to say, whilst a less efficient firm will have more scope to absorb inflation than a more efficient firm, the key issue is that the right net amount should be determined. In Southern’s case, for example, its evidence suggested that its ‘inefficiency’ was greater than its ‘input price pressure’ and therefore even when inflation is taken into account, it should be asked to reduce prices in both real and nominal terms. Put simply, less efficient firms should of course be expected to make demanding efficiency savings – but those savings cannot be properly determined without taking inflation into account.

» Ofwat’s upper quartile approach in particular is a mechanism that results in inflation being treated in a binary manner. It is not clear why one would expect all companies above the upper quartile with regards to retail costs to be able to absorb all inflationary pressure. This is, however, a matter of empirical evidence.

» The above matters collectively raise a potential regulatory failure risk. That is to say, a priori, the risk and consequences of not taking inflationary pressure into account when setting efficiency targets would seem to be at least as great as that associated with inadvertently allowing for ‘too much’ inflationary pressure. For example, the risk that retailers become inadvertently loss making for reasons unconnected to economic efficiency.

In our view, it is of course quite proper that regulators challenge companies hard to provide high quality evidence regarding efficiency and cost pressure – and that companies should seek to respond to those challenges. This is an essential part of regulatory determinations. Equally, it is clearly important that regulators seek to ensure that companies are not able to recover costs that are ‘inefficient’, as this is to the clear detriment of customers. We do think, however, that in relation to input price pressure, Ofwat should take the matters highlighted here into consideration.
## Annex – summary of the literature regarding opex risk and the cost of equity

<table>
<thead>
<tr>
<th>Publication</th>
<th>Authors</th>
<th>Summary of key points</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘A study into certain aspects of the cost of capital for regulated utilities in the UK.’</td>
<td>Wright, Mason, Miles. CEPR / OFT / various regulators (2003).</td>
<td>The paper specifically examines the influence of the form of regulation and the cost of capital. Of particular relevance to inflation risk, the authors specifically address partial cost pass through in the context of RPI-X regulation (i.e. where inflation cost is passed through to price, meaning that this risk is not borne by equity). The authors note that betas are lower under cost pass-through and that this holds even under partial pass through: “the beta of the regulated firm is lower when partial cost pass-through is allowed.”</td>
</tr>
<tr>
<td>‘Disaggregating the BT Group Asset Beta Report for Sky and TalkTalk.’</td>
<td>Europe Economics (2013)</td>
<td>Within the scope of the report, EE explore the link between operational leverage (the balance of fixed versus variable operating costs) and betas. The paper sets out the well-established theoretical framework that explains why firms with a high ratio of fixed costs to asset values have higher asset betas.</td>
</tr>
<tr>
<td>‘Equity Betas Issues Paper.’</td>
<td>Australian Energy Regulator. (2013).</td>
<td>This paper was part of the Australian Energy Regulator’s Better Regulation work programme and addresses a wide spectrum of regulatory issues of relevance to beta determinations. The paper specifically recognises the potential links between regulatory mechanisms that allow for cost pass through and equity risk: “While in some cases cost pass throughs relate solely to business-specific risk, where these... relate to market wide influences, the cost pass through would reduce systematic risk exposure.”</td>
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<tr>
<td>Economic Indicator</td>
<td>Source</td>
<td>Description</td>
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<tr>
<td>Operating measures of performance risk (e.g. EBIT and operating costs)</td>
<td>Using regression analysis with data over 28 years, the authors find that operating measures are statistically significant determinants of market betas.</td>
<td></td>
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<tr>
<td>'The WACC for the Dutch TSOs, DSOs, water companies and the Dutch Pilotage Organisation.'</td>
<td>Brattle Group (2013).</td>
<td>A report developed for the NMA to advise on the appropriate cost of capital for the Dutch Pilotage Organisation, Dutch Transmission System Operators, and water distribution companies. The report specifically sets out how the extent to which the entities under consideration are able to ‘pass through’ cost volatility to prices will directly impact equity betas.</td>
</tr>
<tr>
<td>'The Impact of Operating and Financial Risk on Equity Risk.'</td>
<td>Lord, Journal of Economic and Finance (1996)</td>
<td>Using regression analysis across 35 firms in the electricity, airline and motor industry, the authors examine links between operating and financial risk on measures of equity risk – including betas. They find positive and statistically significant relationships between all measures of operating risk and equity risk. This includes both operating leverage measures of the ratio of net profit to firm size; and of output and cost variability.</td>
</tr>
<tr>
<td>'The impact of the demand volatility and leverages on the systematic risk of common stocks.'</td>
<td>Chung, Kee H, Journal of Business Finance and Accounting (1989).</td>
<td>The author uses a random sampling method to analyse manufacturing and utility listed companies and finds that consumption demand volatility, operating and financial leverage affect companies’ systematic risk together.</td>
</tr>
<tr>
<td>'The Association between Accounting and Market-Based Risk Measures.'</td>
<td>Toms, Salama and Nguyen. University of York Working Paper (2005)</td>
<td>The paper is an empirical study of the link between operational and financial leverage and market-based measure of equity risk. Of relevance to inflation cost pass through, the authors find that exposure to operating cost more generally is the key driver of equity risk and that operational leverage in particular is key: “The results confirm the importance of operating leverage in the determination of systematic risk.”</td>
</tr>
</tbody>
</table>
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