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PR14 Reconciliation Rulebook

Recommendations for implementing PR14 reconciliation mechanisms

Ofwat

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Contents

Section 1. Background and scope

1.1. Executive summary

This document sets out our recommendations on the way the incentive mechanisms which formed part of the 2014 Price Review (PR14) should be reconciled at the next price control review (PR19).

The methodology used in PR14 was new in many respects. Consequently, Ofwat and the industry cannot rely on the approach and guidelines that were used in the past. To protect customers, Ofwat is developing a reconciliation rulebook (RRB) that will set out the way that the new PR14 incentive mechanisms will be reconciled (to establish adjustments that will be applied to the price controls in PR19). The RRB will also set out the approach to reconciling the final position for the incentive mechanisms established at PR09 (given that 2014-15 data was not available at the time the PR14 final determinations were published). Publication of the RRB will help to protect customers by:

- Helping to avoid circumstances where companies fail to act in the interests of customers because they make incorrect assumptions about the way that the PR14 reconciliations will be carried out. With early guidance on PR14 reconciliations, companies can make informed choices prior to the next price review. This will reduce regulatory uncertainty and align company incentives to the delivery of outcomes that customers value.
- The RRB will also provide greater clarity and certainty to investors. This will help facilitate investment in the sector that will ultimately underpin the provision of services to customers.

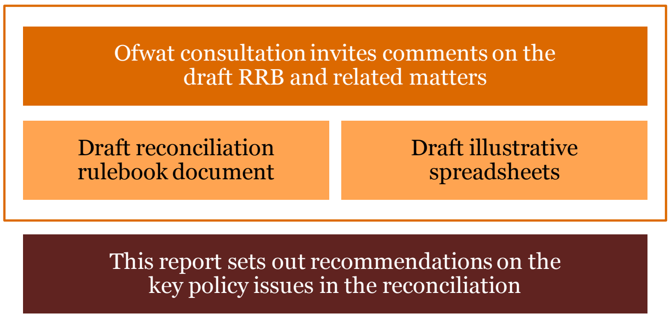
The creation of the RRB will also mitigate the risk of policy misinterpretation and unintended consequences. The RRB will also allow Ofwat, companies and other stakeholders to prioritise effort at PR19 on forward looking issues, rather than issues related to past performance.

This report makes recommendations on the key policy issues

In developing the RRB we found that there were a number of areas where there were choices in the approach used to implement the PR14 reconciliation mechanisms. This report sets out our recommendations in relation to these policy assumptions. In developing these recommendations we have followed an assessment framework agreed by Ofwat.

Alongside this report, Ofwat is inviting views on the draft RRB which we helped Ofwat to prepare. The RRB sets out the more detailed assumptions for the implementation of six reconciliation mechanisms ("PR14 reconciliation mechanisms"). These are also captured in spreadsheets which illustrates the approach to each reconciliation mechanism (see Figure 1).

Figure 1 Suite of RRB documents



The table below summarises our recommendations, which are described in more detail in the remainder of this report. We found that our assessment is finely balanced, requiring trade-offs between criteria. And, as a result, there is more than one credible option in some cases. Therefore, **while we have selected a single preferred option for the purposes of the RRB, Ofwat may want to consider inviting consultation responses on more than one option.**

Table 1 Summary of recommendations

Policy area	Issue	Recommendation
Approach to indexation to adjust for inflation	The PR14 reconciliation mechanisms compare companies' actual performance during 2015-20 against the final determination. The final determination is expressed in real 2012-13 average price terms whereas actual performance will be expressed in outturn prices. Therefore, it is necessary to: a ensure a like-for-like comparison by either changing the price base of the final determination or actual performance; and b make ex-post revenue/RCV adjustments at PR19 using the relevant PR19 price base. However, there are some additional considerations to applying this approach for ODIs (because in-period ODIs are applied within 2015-20 and not at PR19) and for WRIFM (because the published WRIFM formula uses outturn prices).	For most of the PR14 reconciliation mechanisms, we recommend that the calculations are performed in real 2012-13 average price terms, with a one-off (ex-post) indexation adjustment to the price base used for PR19 final determinations using actual RPI. This provides a simple and consistent way to compare performance. There are two exceptions: • The approach to indexation for the WRFIM should follow the existing WRFIM formula (as set out in the final determinations) which uses outturn prices to compare the final determination allowed revenue and the revenue companies actually recover during the price control period. • ODI rewards and penalties 'cashed out' during 2015-20 should be indexed using actual Nov-Nov RPI because this is more consistent with the approach for adjusting allowed revenues during 2015-20.
Approach to financing cost adjustments	Most of the PR14 reconciliation mechanisms take effect in the next price control period. This creates a timing difference between the point at which companies' actual performance (may) differ from the final determination, and the point at which an adjustment is made to correct for the difference.	To account for timing differences, we recommend that Ofwat applies a 'financing cost adjustment' on top of most of the RCV and revenue adjustments made at PR19. The rate used to make the adjustment should be the companies' wholesale Weighted Average Cost of Capital (WACC) because this is the opportunity cost of financing at the wholesale business level. However, we do not recommend any financing cost adjustments for ODIs or for the household retail reconciliation (although Ofwat may want to consult on whether financing costs should be applied for material variances in household retail revenue).
Approach to taxation	The total amount of Allowed Revenue each company is entitled to receive over the next five years includes an allowance for tax. Variations in the amount of revenue collected or costs incurred during the period will also mean that there are variances in the level of tax they actually pay, all other things being equal. These may be either timing or permanent differences. The PR14 methodology does not include a general reconciliation for variations in tax which arise during the period and likewise the individual PR14 mechanisms do not automatically correct for these variances.	For revenue and RCV adjustments that arise from variations in revenues or costs, we recommend: • Where the variation gives rise to a **revenue** adjustment in the next price control period, there is *no true-up* for differences in tax between the current and next price control periods. This means that the total value of the revenue adjustment made in the next price control period will **not** be grossed up for tax (but neither will there be any 'claw back' from the current period). • Where the variation gives rise to an **RCV** adjustment, there is *no true up* for differences in tax between the current and next price control periods. However, the tax allowance in the next period will be calculated in line with the general approach to calculating post-tax returns. This means that the total value of allowed revenue that is ultimately generated from the increase/decrease in RCV **may** include a higher/lower tax allowance (though the actual adjustment will depend on the taxation position of the companies at the time). For revenue and RCV adjustments that arise from ODIs (rather than variations in revenues and costs) and are not covered by the existing 2015-20 tax allowance, we recommend that that these are given a tax allowance.

Policy area	Issue	Recommendation
PR09 (legacy) incentive mechanisms	At the time of the final determination, full data was not available on companies' performance in 2014-15 (i.e. this year was 'blind') and hence the adjustments made to reflect the PR09 incentive mechanisms were based on a mix of actual and forecast performance data. In the final determination, Ofwat stated that it would take a proportionate approach to reconciling actual 2014-15 performance (for example, applying materiality thresholds where appropriate).	We recommend that Ofwat makes an adjustment at PR19 where there is a 'material' difference between the total value of PR09 legacy adjustments in the final determination and the total value of the equivalent adjustments based on companies' actual performances in 2014-15. A materiality threshold of +/-2% of service turnover (2014-15) for revenue adjustments and +/-0.5% of company opening RCV (2014-15) for RCV adjustments would be appropriate (because they reflect historical forecast errors for revenue, and existing serviceability shortfalls).
	The CIS models used at PR14 to calculate adjustments to revenue use company forecasts for the COPI index in the absence of published data. The calculation of COPI is undergoing review.	We recommend Ofwat uses published COPI data to make the 'blind year' adjustment, when it becomes available. This reduces the need to rely on company forecasts.
	In the final determinations Ofwat noted the PR09 CIS methodology used two different approaches for indexation in the RCV adjustment. This methodology had the effect of increasing companies' RCVs at PR14 based on a difference between forecast and actual inflation during 2015-20. In the final determinations, Ofwat stated that it would engage with stakeholders and consider whether the approach used at PR14 is in the long term interests of customers. Ofwat also stated that, if it considered an adjustment was appropriate, any change would be prospective only, and would be applied industry-wide.	We recommend that an adjustment should be made to company RCVs at the start of the next price control period, as it is in customers' long-term interests that RCVs do not continue at the higher level. However, we do not recommend any 'claw back' of revenues earned on the higher RCVs over the 2015-20 price control period because this would be inconsistent with the final determination.
The wholesale revenue forecasting incentive mechanism (WRFIM)	Ofwat introduced the WRFIM to improve companies' revenue forecasting within the wholesale revenue controls. The WRFIM operates by comparing the allowed revenue with the recovered revenue and applies a penalty where the variance is greater than 2%. The penalty has a two year time-lag. It impacts on notional allowed revenues after two years (notional, because there is no actual change to allowed revenues within a price control period). For 2018-19 and 2019-20 the two year time-lag means that adjustments will fall outside the 2015-20 price control period. Furthermore, Ofwat will have incomplete data for the final year.	We recommend that 2018-19 and 2019-20 adjustments are made at PR19, including for the blind year, to prevent delay in applying the penalty – this benefits customers sooner. We recommend that the definition of allowed revenues in the WRFIM is the allowed revenues determined under the licences. Therefore, where there are adjustments in period for an interim determination of k (IDoK) or a reward/penalty for in period ODIs, the WRFIM will take account of this when making the comparison against recovered revenues.
Household retail	It is likely there will be variances between the forecast customer numbers set out in the final determination and the actual customer numbers at the end of the period. In addition companies could recover more revenue per customer compared to that set out in the final determination as a result of an over/under forecast of revenue or customer numbers.	We recommend that companies reforecast their customer numbers at the start of each year and recover revenue on that basis. Where there are variances for over/under recovery of revenues as (a result of customer numbers or revenue per customer) there should be a reconciliation at the end of the period with an adjustment at PR19.

Policy area	Issue	Recommendation
Outcome delivery incentives	Twelve companies have put in place Asset Health ODIs based on composite indices, or basket measures of performance. There are a number of instances where it is not clear in the final determinations how the measures contained in these baskets will be aggregated or how the composite index will be calculated. In a number of cases companies provided Ofwat with separate documentation clarifying the operation of these mechanisms.	To ensure these ODIs can be implemented successfully, we recommend Ofwat seeks further clarity on the formulae that will be used to aggregate the underlying performance measures. Ofwat could require companies to clarify with their CCG the way in these indices are calculated, to promote greater transparency.
	The form of major scheme ODIs differs between companies, as do the arrangements for measuring progress towards the delivery of the schemes. There are a number of instances where it is not clear in the final determination how companies will demonstrate they have 'delivered' against milestones or the overall scheme.	To ensure these ODIs can be measured robustly, and that companies are incentivised to deliver major schemes in an efficient and innovative way for customers, we recommend Ofwat consults on the principles that will be used to assess whether companies' have delivered against milestones and the overall scheme performance commitments.
Totex	To allocate totex under/over performance between RCV and revenue, Ofwat will need to assume an appropriate PAYG rate.	We recommend using a weighted average Pay-As-You-Go (PAYG) based on a companies' PR14 totex baseline to avoid incentives to profile expenditure to increase revenues at PR19.

The remainder of this report

The remainder of this report sets out:

- The framework used to assess the options for the final elements of the PR14 reconciliation mechanisms.
- Our recommendations for addressing timing differences within each of the PR14 reconciliation mechanisms through indexation, taxation and financing cost adjustments.
- Our recommendations for resolving other remaining implementation issues. These include:
  - The incentive mechanisms established at PR09.
  - The way that Ofwat should reconcile totex performance and adjustments through the menus.
  - The reconciliation of outcome delivery incentives (ODIs).
  - The operation of wholesale revenue forecasting incentive mechanism (WRIFM).
  - The approach to reconciling forecasting errors for the household retail control.

Section 2. Assessment framework

2.1. Assessment framework

Principles and criteria for assessment

Ofwat's PR14 final determinations were made in accordance with its statutory duties, relevant guidance from the UK Government and the Welsh Government, and under the principles of best regulatory practice[1].

It follows that the mechanisms used to reconcile companies' performance against the final determinations should also flow from these duties and principles. In many cases, aspects of the mechanisms are set out in the final determinations or other policy documents. However, where there is more than one credible option for how the mechanisms should be implemented, we have assessed the alternatives using criteria which are consistent with the statutory duties and principles. The criteria have been agreed with Ofwat.

Figure 2: Assessment criteria

Ofwat's **main statutory duties:**

- protect the interests of consumers, wherever appropriate by promoting competition;
- secure that the companies properly carry out their functions;
- secure that the companies can finance the proper carrying out of their functions; and
- (In relation to English water companies) secure long-term resilience.

Subject to these duties, Ofwat also has other **duties including to:**

- promote economy and efficiency;
- contribute to the achievement of sustainable development; and
- have regard to the principles of best regulatory practice.

Primary criteria for assessing options:

1. Customer benefits.
2. Company financeability.
3. Longer term customer benefits through consistency with final determinations and other relevant documents.

Other criteria which support the delivery of benefits to customers:

4. Risk of perverse incentives.
5. Company ownership and accountability.
6. Consistency with other reconciliation tools.
7. Straightforward and clear to implement.

Our assessment assigns a Red, Amber, Green (RAG) score to each criterion. Where a Red score is assigned to any of the first three criteria, we do not proceed with the assessment because this would be inconsistent with Ofwat's duties. We found that our assessment is finely balanced, requiring trade-offs between criteria. And, as a result, there is more than one credible option in some cases. Therefore, while we have selected a single preferred option for the purposes of the RRB, Ofwat may want to consider inviting consultation responses on more than one option.

The way we have interpreted the criteria for the RAG assessment is set out below:

Table 2 RAG criteria

Criteria	How the criteria has been applied in this report
1. Customer benefits	• Assessment of likely customer benefits, both in 2015-20 and post-2020. If option

[1] Regulatory activities should be transparent, accountable, proportionate, consistent and targeted only in cases where action is needed. *Final price control determination notice: policy chapter A1 – introduction, Ofwat, December 2014.*

		is likely to result in any customer detriment (RED score), **do not proceed**.
2. Company financeability	•	Qualitative consideration of likely impacts on the financeability of efficient companies with a notional capital structure. If option has a clear impact on financeability (RED score), **do not proceed**. We note that at PR14 Ofwat assessed financeability before legacy adjustments. Therefore, our assessment assumes that financeability at PR19 will be assessed before taking account of the impact of PR14 reconciliation mechanisms.
3. Longer term customer benefits through consistency with final determination and other relevant documents	•	Comparison with policy set out in final determinations and other relevant policy documents. If an option is inconsistent with final determinations or Ofwat policy this may undermine confidence in the regulatory regime, to the long term detriment of customers (RED score). If there is an option available that is consistent, **do not proceed** with an inconsistent option unless the inconsistency relates to a mistake in the published documents.
4. Risk of perverse incentives	•	Qualitative assessment of whether the options are likely to appropriately incentivise company behaviour. Options which incentivise companies to deliver for their customers are **preferred**.
5. Company ownership and accountability	•	Consistent with the principles of PR14, companies should retain accountability for delivering their plans and demonstrating how their performance results in an adjustment which is consistent with the final determinations. Likewise, there should be no undue burden. Options which promote these principles are **preferred.**
6. Consistency with other reconciliation tools	•	Comparison against PR14 financial model and relevant PR09 models, and agreed approach. Options with greater consistency are **preferred** (though noting that the PR14 mechanisms reflect the step-change adopted in the PR14 methodology so consistency with PR09 is not always intended).
7. Straightforward and clear to implement	•	Qualitative assessment of the complexity of an option, and ease of implementation by companies and Ofwat. Options which are straightforward and clear are **preferred**.

Scope of assessment

Our assessment of key policy decisions against the criteria are set out in the remainder of this document. All of the other technical assumptions required to implement the reconciliations are documented and are transparent in the RRB and supporting spreadsheets.

Appendix A sets out the material policy areas for each individual mechanism and the other technical areas documented in the RRB and supporting spreadsheets.

Section 3. Assessment and recommendations

3.1. Approach to indexation

Summary of this section:

The PR14 reconciliation mechanisms compare companies' actual performance during 2015-20 against the final determination. The final determination is expressed in real 2012-13 average price terms whereas actual performance will be expressed in outturn prices. Therefore, it is necessary to: (a) change the price base of either the final determination or actual performance to ensure a like-for-like comparison; and (b) make ex-post revenue/RCV adjustments at PR19 using the relevant PR19 price base.

For most of the PR14 reconciliation mechanisms, we recommend that the calculations are performed in real 2012-13 average price terms, with a one-off (ex-post) indexation adjustment to the price base used for PR19 final determinations using actual RPI. This is the simplest and most consistent way to compare performance. There are two exceptions:

- While ODI rewards and penalties 'cashed out' during 2015-20 should be calculated in real 2012-13 prices, they should be indexed using actual Nov-Nov RPI because this is more consistent with the approach for adjusting allowed revenues during 2015-20.
- The approach to indexation for the Wholesale Revenue Forecast Incentive Mechanism (WRFIM) should follow the existing WRFIM formula (as set out in the final determinations) which uses outturn prices to compare the final determination allowed revenue and the revenue companies actually recover during the price control period.

3.1.1. Approach to indexation

Similar to the PR09 legacy adjustments, the PR14 reconciliation mechanisms compare companies' actual performance during the price control period to that assumed in the final determination.

The PR14 final determinations are expressed in real 2012-13 average price terms and actual performance during the price control period will be expressed in outturn (actual) prices. Any adjustments to 2020-25 price controls based on the PR14 reconciliation mechanisms will need to be made in the relevant PR19 price base. Therefore, it is necessary to:

a. Change the price base of either the final determination or companies' actual performance information to ensure a like-for-like comparison, and

b. Ensure that ex-post revenue/RCV adjustments are calculated in a price base consistent with the price base used for the PR19 final determinations.

We recommend that the PR14 reconciliation mechanisms are calculated in real 2012-13 average price terms, with a one-off indexation adjustment to the PR19 price base. This allows actual performance to be compared transparently against the values set out in the published final determination (which is set in 2012-13 prices). To give effect to this, the RRB requires actual costs and revenues to be deflated to real 2012-13 average price terms using actual year average RPI. The outputs of the PR14 reconciliation mechanisms would then be indexed by actual year average RPI to bring them in line with the PR19 price base.

We note, however, there are two exceptions:

- The WRIFM formula set out in the final determination compares projected allowed revenues in the final determination with actual revenues in each year – in the prices of the year concerned. The formula operates by indexing the allowed revenues to the year concerned using RPI which is based on movements in prices between in the year preceding November (Nov-Nov series RPI). We do not recommend altering the approach to indexation within the WRIFM formula. The operation of the formula is documented in the RRB.
- Three companies have licence changes which allow them to receive some of their ODI rewards and penalties during the price control period. These 'in-period ODIs' are applied via an adjustment to Allowed Revenue during 2015-20 and therefore the PR19 price base is not relevant. We recommend that in-period ODIs are indexed using Nov-Nov RPI, rather than year average RPI. This is explained further below.

3.1.2. Indexation of in-period ODIs

Overview of issue

Three companies (Anglian, Severn Trent and South West Water) have been granted licence changes so that they could receive or 'cash out' some of their rewards and penalties during the price control period. The reward or penalty is expressed in real 2012-13 average price terms[2] and therefore Ofwat will need to decide how to index these figures to convert them from 2012-13 prices into nominal terms (i.e. money of the day).

Options

We considered 3 options:

1. Use actual Nov-Nov RPI, consistent with k-setting, with no further adjustment necessary.

   This is consistent with the approach Ofwat uses to determine Allowed Revenue as part of the k-factor setting process which uses lagged Nov-Nov actual RPI. Based on historical RPI figures, there would have been relatively little difference between using the Nov-Nov RPI as opposed to the average RPI in the year of the adjustment. However, we note that if RPI is particularly volatile, the adjustment received will be materially different to that based on a year average RPI figure.

2. Use a nationally-published forecast average RPI and then make no further adjustment.

   In this option, the reward or penalty in any given year is the real value in 2012-13 average prices inflated by the actual year average RPI index. However, at the time the company calculates the nominal value of the reward or penalty there will be incomplete information about RPI for the year the adjustment will be made. To avoid ambiguity, Ofwat could nominate a nationally-published forecast RPI series to be used by all the companies. Using a frequently-updated forecast should then minimise the difference between actual and forecast RPI in the year of adjustment.

3. Use a nationally-published forecast average RPI, and then make a one-off adjustment at the end of the period to correct for actual average RPI.

Recommendation

We recommend Ofwat consults on the basis of option 1 (i.e. use actual Nov-Nov RPI). While this means there is a difference in the indexation series used for in-period and end-of-period ODIs, this approach is consistent with the indexation of Allowed Revenues within the price control period. It is also straightforward, easy to apply, and is not likely to yield results which are materially different to year average RPI.

Supporting assessment

The following table assesses the options discussed above against the assessment criteria set out in section 2 of this report.

[2] PR14 business planning tables were specified as real 2012-13 price base unless otherwise specified. We therefore interpret the ODI reward and penalty rates as real 2012-13 average price values.

Table 3 RAG assessment

Criteria	Option 1 Nov-Nov RPI	Option 2 Forecast RPI	Option 3 Forecast RPI, with adjustment
Customer benefits	🟢	🟢	🟢
Company financeability	🟢	🟢	🟢
Consistency with final determination and other relevant documents	🟢	🟢	🟢
Risk of perverse incentives	🟢	🟢	🟢
Company ownership and accountability	🟢	🟢	🟢
Consistency with other reconciliation tools	🟡	🟡	🟡
Straightforward and clear to implement	🟢	🟢	🟡
Preferred option	✓	✗	✗

Table 4 Notes to assessment

Option		Notes to assessment
Option 1 – Nov RPI (Preferred)	✓	This option is consistent with the indexation series used for allowed revenues and the series used within the WRFIM calculations.
	✓	Clear and straightforward in operation.
	✓	Assuming there is an equal likelihood of penalties and rewards, companies should be indifferent to the amount of indexation applied.
	✗	If RPI is particularly volatile, there is a risk that companies will not receive the correct amount in nominal terms. This is also less consistent with the approach to totex incentives (which are used to calibrate ODIs) compared with Option 3. However, we do not expect the difference to be material in comparison with the use of year-average RPI.
Option 2 – Forecast RPI	✓	Greater accuracy (compared to option 1) if RPI were to be more volatile. However, we do not expect the difference to be material
	✗	Compared with option 3, may be less in line with stakeholder expectations as they may anticipate a true-up, given the use of forecast numbers
	✗	Could be perceived to be inconsistent with other mechanisms which use actual inflation and, compared with option 3, less consistent with the approach to totex incentives (which are used to calibrate ODIs).
Option 3 – Forecast RPI with adjustment	✓	This is the most accurate option when RPI is volatile. However, we do not expect the difference to be material
	✓	More consistent with the approach to totex incentives (which are used to calibrate ODIs).
	✗	But, the option will require additional “true-up” calculations to account for a difference which we do not expect to be material. “True-up” adjustment will also be applied using a forecast RPI figure, so will not provide “final” accuracy.
	✗	Knock-on implications for blind-year true-up, which would presumably have to be incorporated into the end-of-period true-up.

3.2. Approach to NPV neutrality

Summary of this section:

Most of the PR14 reconciliation mechanisms take effect in the next price control period. This creates a timing difference between the point at which companies' actual performance may differ from the final determination, and the point at which an adjustment is made to correct for the difference. To take account of this timing difference, we recommend that a 'financing cost adjustment' is applied on top of each of the RCV and revenue adjustments made at PR19. However, we do not recommend financing cost adjustments for ODI rewards/penalties or for the household retail reconciliation.

Overview of issue

Most of the PR14 reconciliation mechanisms take effect in the next price control period. This creates a timing difference between the point at which companies' actual performance may differ from the final determination and the point at which an adjustment is made to correct for the difference. This timing difference will have financial consequences as a result of the time value of money. This issue is common to ex-ante multi-year price controls, including PR09. We illustrate this in the example below.

In the example, the company is entitled to earn £100 in 2015 but does not receive this cash until 2019. Without an adjustment for the time value of money, the £100 cash will be worth less in 2019 than in 2015. This difference in value is equal to the earnings the company could have made during the period 2015 to 2019 had it received the £100 in 2015. Assuming the company can produce additional earnings equivalent to its Weighted Average Cost of Capital (say 3.6%), the company must be compensated £117.3 in 2019 (not £100) to ensure the payment is neutral on a net present value (NPV) basis. This example demonstrates that, in principle, there should be a financing cost adjustment to preserve NPV neutrality of cashflow timing differences.

Figure 33 Illustrative example

	2015	2016	2017	2018	2019
Money earned	100	0	0	0	0
Money received	0	0	0	0	100
Value of money earned in 2015 in 2019 (WACC at 3.6%)					117.3
Adjustment for NPV neutrality at PR19					17.3
Discounted back to 2015 (3.6% discount rate)					100

Note: The example assumes that additional earnings are generated in the middle of 2015 but the payment is made at the end of 2019.

At PR14, Ofwat applied both indexation and financing costs to a number of the adjustments arising from the PR09 incentive mechanisms to accommodate the time value of money and help preserve NPV neutrality. In some cases the adjustments included only indexation, and not financing cost adjustments. For example:

- In the case of the Capex Incentive Mechanism (CIS) and Revenue Correction Mechanism (RCM) – both indexation **and** financing cost adjustments were applied (the financing cost adjustment was based on the PR09 WACC). Financing cost adjustments were also considered in the Thames Interim Determination of K (IDoK) in the bad debt claim. This was to account for the increased costs of carrying additional outstanding unpaid revenues.
- Whereas, in the case of the Opex Incentive Adjustment (OIA) and Serviceability adjustment – indexation was applied but there was **no** financing cost adjustment.

Example: PR09 CIS mechanism

For each year that capex over/under performance was assessed, the resulting reward / penalty for each year was adjusted for indexation and for the financing rate up to the end of the price control period. This preserves the effect of NPV neutrality and helps to mitigate risks of distortion of capex investment decisions.

For the PR14 incentive mechanisms, Ofwat has explicitly said that a financing adjustment will be applied within the WRFIM. However, for the remaining mechanisms the final determinations are silent on whether Ofwat will apply an adjustment to retain NPV neutrality.

We considered whether an adjustment is required for each of the mechanisms, and a number of additional implementation issues. In particular, we considered the following questions which need to be addressed to finalise the reconciliation mechanisms:

- **Totex performance -** For each year of totex out/under performance, should the reward or penalty be adjusted for financing costs between the point of out/underperformance and the point at which the reward or penalty adjustment is made at PR19? Also, should financing costs apply to the entire totex out/under performance or only the non-PAYG component?
- **ODIs -** Where companies have an ODI, should the reward or penalty be adjusted for financing costs between the point at which the ODI is achieved and the point at which the reward or penalty adjustment is made?
- **Retail Revenue** – For each year household retail revenue is reconciled for customer numbers, should the adjusted household retail revenue be adjusted for financing costs between the point at which the household retail revenue varies and the point at which the future household retail revenue is adjusted? And if so, at what rate?
- **PR09 'Blind year'** – At PR14, Ofwat made adjustments to 2015-20 price controls based on the PR09 incentive mechanisms and companies' performance during 2010-15. Ofwat used forecast performance information for 2014-15 to do this, because actual performance information was not available at the time (i.e. 2014-15 was a 'blind year').Where an adjustment is required to correct variances between forecast and actual 2014-15 performance, should an adjustment be made at PR19 to account for the difference between the point at which the original adjustment would have been made at PR14 (had the blind year actual performance been known) and at the point at which the revised adjustment is made?
- **PR09 Thames Water billing system shortfall** – Thames Water's FD09 price determination included funding for a new billing system that was not implemented as planned. In its representation to the PR14 draft determination, Thames Water proposed a £5.4m shortfalling adjustment to take into account investment it made in 2010-15 on investigating the new billing system. As noted in Thames Water's company specific appendix to FD14, this will form part of the 2014-15 'blind year' reconciliation, with an adjustment to the wholesale water and wastewater RCV at PR19 (apportioned in line with customer numbers).

We have not separately assessed:

- Adjustments for the time value of money in the WRFIM (because the approach is already set out in the WRFIM formulae); or
- Adjustments for the Thames Tideway uncertainty mechanism (because the approach would be captured in the broader totex reconciliation, or as part of an IDoK); or
- Notified items for business rates uncertainty (because the IDoK mechanism would apply within period).

Options

We have considered 2 options for most mechanisms:

1. Do not make an adjustment for the time value of money
2. Adjust for financing costs using the companies' PR14 final determination wholesale WACC for wholesale mechanisms, and a retail financing rate for retail mechanisms.

We also considered a third option for each of the totex menu adjustment:

3. For totex menu only, adjust for the financing rate but only for the non-PAYG component of totex. We considered this option because there is a difference between the treatment of PAYG and non-PAYG expenditure within the price control framework.

Recommendation

We recommend that Ofwat adopts the approach to financing cost adjustments which is summarised in the table below. The supporting assessment is set out separately for each mechanism in tables 6-12 below.

Table 5 Recommendation

Mechanism	Financing cost adjustment recommended?
Totex adjustment and menu	**Yes.** We recommend applying a financing cost adjustment using the company PR14 wholesale WACC. With this approach, companies have less incentive to delay their capital expenditure plans to gain the financing benefits of under-spending in the earlier years of the price control.
ODI	**No.** We do not recommend that a financing cost adjustment applies to ODIs. Compared with other types of reconciliations there is no clear requirement to adjust for the time value of money because rewards/penalties do not (necessarily) reimburse companies for cost incurred. It is also complex to identify the time at which some ODIs 'crystallise'.
Retail Revenue	**No.** Companies are already incentivised to forecast more accurately for retail (hence variances are not expected to be material) and further consideration would be required to select an appropriate discount rate if an adjustment was to be applied. However, we note there is a good case for being consistent with the other reconciliation mechanisms (e.g. WRFIM) and therefore it is a finely balanced recommendation. Ofwat may want to invite consultation responses on this approach, for example, on whether financing costs should be applied for material variances.
PR09 Blind year	**Yes.** We recommend applying a financing cost adjustment using the company PR14 wholesale WACC. This also applies to the Thames legacy billing system shortfall.
WRIFM	**Yes.** The published WRIFM formula includes a financing cost adjustment.

Supporting assessment – totex

Table 6 RAG assessment

Principles	Option 1 No financing costs	Option 2 Financing costs	Option 3 Financing costs (non-PAYG only)
Customer benefits	🟡	🟢	🟢
Company financeability	🟢	🟢	🟢
Consistency with final determination and other relevant documents	🟢	🟢	🟢
Risk of perverse incentives	🔴	🟢	🟡
Company ownership and accountability	🟢	🟢	🟢
Consistency with other reconciliation tools	🟡	🟢	🟡
Straightforward and clear to implement	🟢	🟢	🟡
Preferred option	✗	✓	✗

Table 7 Notes to assessment

Option		Notes to assessment
Option 1 – No financing costs	✓	This is not inconsistent with the final determinations, which do not specifically address the issue.
	×	Perverse incentives: In principle, financing cost adjustments should apply to account for cash flow timing differences. Option 1 may distort NPV neutrality of company decisions and companies may seek to re-profile totex during the period (the incentive would be to underspend at the beginning of the AMP to receive a financing benefit in PR19).
	×	Option 1 also inconsistent with other PR14 reconciliation tools that seek to adjust for cash flow timing differences (e.g. WRFIM).
Option 2 – Financing costs (preferred)	✓	This is not inconsistent with the final determinations, which do not specifically address the issue.
	✓	This is consistent with the principle that financing cost adjustments should apply to cash flow timing differences. Allowing financing costs retains NPV neutrality of company decisions and provides better protection for customers. This is because companies who have committed to expenditure plans have no incentive to delay them to gain the financing benefits of under expenditure in the earlier years of the control.
	✓	This is the most consistent with the other reconciliation tools that seek to adjust for cash flow timing differences (e.g. WRFIM).
Option 3 – Financing costs (non-PAYG only)	✓	This is not inconsistent with the final determinations, which do not specifically address the issue.
	✓	Most consistent with PR09 mechanisms, as CIS mechanism included financing adjustment (closest precedent) whilst the OIA (comparable to the PAYG element of totex) did not include a financing adjustment.
	×	Inconsistent with other PR14 reconciliation tools that seek to adjust for cash flow timing differences (e.g. WRFIM).
	×	Perverse incentives: This approach is only partially consistent with the principle that financing cost adjustments should apply to cash flow timing differences (only option 2 fully compensates for timing differences) and therefore companies could still seek to re-profile totex during the period.
	×	This is arguably the most difficult of the three to implement as it would involve making a judgment of non-PAYG elements of totex (though we note that the annual PAYG or weighted average PAYG per the final determination could apply).

Supporting assessment – ODIs

Table 8 RAG assessment

Principles	Option 1 No financing costs	Option 2 Financing costs
Customer benefits	🟢	🟢
Company financeability	🟢	🟢
Consistency with final determination and other relevant documents	🟢	🟢
Risk of perverse incentives	🟡	🟢
Company ownership and accountability	🟢	🟢
Consistency with other reconciliation tools	🟡	🟢
Straightforward and clear to implement	🟢	🔴
Preferred option	✓	×

Table 9 Notes to assessment

Option	Notes to assessment
Option 1 – No financing costs (preferred)	✓ While financing cost adjustments could apply to any timing delay between the point at which an ODI arises and the point at which an adjustment is made, rewards/penalties do not (necessarily) reimburse companies for cost incurred. Identifying the point at which ODIs arise is complex, and end-of-period ODIs 'crystallise' only at the end of the price control period. Given this, there is less rationale to adjust for timing differences.
	✓ PCs and associated ODIs are set on annual, multi-year and a one-off basis. Therefore companies are still incentivised to deliver to the timescales set in the final determination and scope for re-profiling is limited compared to other incentives (e.g. totex).
	✗ The approach distorts V neutrality between in-period and end-of-period payments. There is a (low) risk that companies with the ability to take in-period ODIs are incentivised to defer penalties until end-of period (the risk is low because companies have identified in-period ODIs in advance and Ofwat has the ability to initiate in-period ODI adjustments itself).
	✗ Different from other mechanisms, where a financing cost adjustment has been applied. However, as described above, there is less rationale to adjust for timing differences
Option 2 – Financing costs	✓ Allows in-period and end-period ODI adjustments to be NPV neutral.
	✗ It is complex to identify the point at which some ODIs arise (requires additional judgements to be made regarding the operation of multi-year ODIs which were intended to be assessed at PR19). Could be perceived that companies with end-of-period ODIs have opted out of early 'crystallisation'.

Supporting assessment - Variances in PR09 incentive mechanism adjustments for 2014-15 'blind year' (and Thames billing system shortfall)

Table 10 RAG assessment

Principles	Option 1 No financing costs	Option 2 Financing costs
Customer benefits	🟢	🟢
Company financeability	🟢	🟢
Consistency with final determination and other relevant documents	🟢	🟢
Risk of perverse incentives	🟡	🟢
Company ownership and accountability	🟢	🟢
Consistency with other reconciliation tools	🟡	🟢
Straightforward and clear to implement	🟢	🟢
Preferred option	✗	✓

Table 11 Notes to assessment

Option		Notes to assessment
Option 1 – No financing costs	✗	Inconsistent with the principle that financing cost adjustments should apply to timing differences, though noting that PR14 documentation is silent on financing costs for blind year. This is also less consistent with proposed approach to other reconciliation tools, where financing cost adjustments are proposed.
	✗	Companies should be incentivised to accurately forecast blind year performance and they should not retain a benefit from mis-forecasting significant differences between forecast and actual performance. However, variances are expected to be minimal and we note that there is no further opportunity for companies to re-forecast their 2014-15 performance.
Option 2 – Financing costs (preferred)	✓	Consistent with: (a) the principle that financing cost adjustments should apply to cash flow timing differences, and (b) the approach adopted for other mechanisms.
	✓	Companies should be incentivised to accurately forecast blind year performance, though we note that financing costs should be minimal because variances are calculated between actual and forecast performance.

Supporting assessment – Retail Revenue

Table 12 RAG assessment

Principles	Option 1 No financing costs	Option 2 Financing costs
Customer benefits	🟢	🟢
Company financeability	🟢	🟢
Consistency with final determination and other relevant documents	🟢	🟢
Risk of perverse incentives	🟡	🟢
Company ownership and accountability	🟢	🟢
Consistency with other reconciliation tools	🟡	🟢
Straightforward and clear to implement	🟢	🟡
Preferred option	✓	✗

Table 13 Notes to assessment

Option		Notes to assessment
Option 1 – No financing costs (preferred)	✓	Companies are (arguably) already incentivised to forecast more accurately for retail. Consultation on WRFIM concluded that variances for household retail are likely to be minimal because allowed revenues will automatically adjust when the number of customers served changes within the period (though Ofwat may want to consider how to address material variances).
	✗	Could be perceived to be inconsistent with RCM, where a financing cost adjustment was applied to aggregate revenues (including retail) due to single price control framework. Also, this approach is potentially inconsistent with the principle that financing cost adjustments should be used to help neutralise cash flow timing differences (which we are proposing to use for other reconciliations).

Option		Notes to assessment
Option 2 – Financing costs	✓	This is consistent with the principle that financing cost adjustments should apply to cash flow timing differences. This would also be consistent with the application of financing costs in other mechanisms.
	✓	More consistent with PR09 RCM, which applied to aggregate revenues (including retail).
	×	Further consideration would be required to select an appropriate discount rate because the focus of attention at PR14 was on the retail margin rather than the WACC of the retail business.

3.3. Approach to taxation

Summary of this section:

At PR14, the total amount of Allowed Revenue for each company included an allowance for tax. This tax allowance was calculated using Ofwat's view of efficient costs and the availability of actual tax capital allowances and tax losses. Variations in the amount of revenue collected or costs incurred during the period will mean that there are variances in the level of tax companies actually pay, all other things being equal.

The final determinations do not provide for a general reconciliation for variations in tax which arise during the period or any specific tax 'claw back'.

We recommend that (most) revenue adjustments are not grossed up for tax in the next price control period (i.e. the calculation of the tax allowance in the next price control period ignores these revenue adjustments) because this helps avoid double counting the tax allowance which is already part of 2015-20 allowed revenues. However, we recommend that revenue adjustments from ODI rewards and penalties are grossed up for tax, because they are not covered by the existing tax allowance.

For RCV adjustments, we recommend that the tax allowance in the next period continues to be calculated in line with the general approach to calculating post-tax returns. This means that the total value of allowed revenue that is ultimately generated from the increase/decrease in RCV may be grossed up for tax (though the actual adjustment will depend on the taxation position of the companies at the time).

3.3.1. Approach to taxation

The PR14 final determinations do not explicitly address whether the outputs of the PR14 reconciliations are to be treated as pre-tax or post-tax values. That is, whether they are made gross or net of tax.

In principle, there are three types of adjustments that apply as a result of the PR14 reconciliations:

- Adjustments to RCV at the beginning of the next price control
- Adjustments to revenue during the next price control
- Adjustments to revenue within the current price control period – relating to in-period ODIs and uncertainty mechanisms.

Ofwat calculates allowed revenues through a post-tax 'building block' revenue model. The model includes a post-tax return on equity and a pre-tax return on debt, in line with a 'vanilla' WACC. Estimated tax costs are compensated through a separate tax allowance. At PR14, the tax allowance was estimated in the PR14 Financial Model, taking into account Ofwat's view of efficient costs and the availability of actual capital allowances and tax losses.

The PR14 methodology does not include a general reconciliation for variations in tax which arise during 2015-20, nor any specific tax 'claw back' within individual PR14 mechanisms. This is slightly different to the approach at PR09, where some of the incentive mechanisms included an additional adjustment to estimate the impact of tax, though they used a range of different rates (e.g. statutory versus effective tax rates). We note that the tax impacts calculated through these mechanisms are different to the calculation of the tax allowance in the PR14 Financial Model (for example, the RCM uses the statutory tax rate and does not account for the availability of tax losses).

Adjustments to RCV: We expect that PR14 reconciliations that affect the RCV at the start of the next price control will continue to follow the general approach to calculating post-tax returns. The higher or lower RCV will generate a higher or lower return and higher or lower tax allowance, though the actual adjustment will depend on the taxation position of the company at the time (assuming that the PR19 Financial Model calculates the tax allowance in a similar way as at PR14).

Adjustments to revenue: For reconciliations that result in adjustments to revenue during the next price control period, there is no true-up for differences in tax between the current and next price control periods. To give effect to this, the total value of the revenue adjustment made in the next price control period will not be grossed up for tax, but nor will there be any 'claw back' from the current period. In other words, the allowed tax calculation will not take account of these revenue adjustments. This helps to avoid double counting the tax allowance which is already part of 2015-20 allowed revenue.

Adjustments to revenue for ODI rewards/penalties: The PR14 documents do not specify the tax treatment of ODIs and there are some complexities associated with implementing either a net or gross approach for the revenue and RCV adjustments for ODIs. These specific issues and our recommendations are discussed below.

We note that our recommendations do not affect the approach to any Interim Determination of K (IDoK).

3.3.2. Approach to tax – ODIs

Overview of issue

There are a number of additional complexities with making tax adjustments for ODI rewards and penalties. In particular, the PR14 documents do not set out whether the ODI rewards and penalties are to be adjusted for tax. We have therefore assessed the case for making a tax adjustment.

We note the following:

- **Cap and collar**. The final determinations indicate that the aggregate cap and collar (calculated as 2 per cent of notional regulated equity) is calculated on a post-tax basis. The outcomes policy chapter notes that *"In the operation of the cap, rewards and penalties will be factored by 80% to make them post tax"*[3]. This could suggest that the ODI rewards and penalties are expressed as pre-tax (gross) values; hence no further tax adjustment would be required.
- **In-period ODIs**. ODIs paid within the 2015-20 price control period generate an increase/decrease in allowed revenue during 2015-20. The PR14 documents do not specify whether this change in allowed revenue is also intended to reflect the change in tax compared to the final determination tax allowance.
- **RCV ODIs.** ODI rewards and penalties can result in an adjustment to the RCV. The RCV is one of the inputs used to generate the tax allowance, and hence a change in the RCV would impact the value of the tax allowance (all things being equal) so that an appropriate return can be generated on the whole of the RCV. The PR14 documents do not specify that changes to the RCV due to ODI rewards and penalties would be treated any differently.
- **Willingness to pay**. A large number of ODIs have been developed based on customers' willingness to pay, typically without any explicit separate assessment of company tax considerations. This may suggest that customers have indicated their total willingness to pay for a specific outcome and would not be prepared to fund any rewards via a separate tax allowance. However:
  - not all ODIs are based on customers' willingness to pay (e.g. some are based on costs) and, in general, the final determinations adopt central case estimates for willingness to pay; and
  - customers would not necessarily be worse off if the ODIs were deemed to be post-tax values, because it would apply equally to penalties as well as rewards (and therefore may work to increase or decrease the tax allowance).

[3] Setting price controls for 2015-20, Final price control determination notice: policy chapter A2 – outcomes, page 94

Options

We considered three options:

- **Option 1:** ODI rewards and penalties are treated as post-tax values (net of tax). The incremental tax impact reflected within the tax building block of allowed revenue for 2020-25. An 'exception' is made for in-period ODIs because there is no true-up for in-period tax variances. In this option, the ODI cap and collar is calculated on a post-tax basis, consistent with the final determinations (though it is not necessary to factor the ODIs by 80% because they are already post-tax values).
- **Option 2:** Same as option 1, except the revenue adjustment for in-period ODIs also takes account of tax impacts. The tax impact will be estimated by factoring up the reward/penalty by the marginal statutory tax rate.
- **Option 3:** ODI reward and penalties are treated as pre-tax values (inclusive of tax) and therefore no further tax adjustments will apply. An exception is made for RCV ODIs, which still result in an implicit tax adjustment (because the revenue produced by the adjusted RCV through run off and return will feed into the tax allowance in future price control periods).

Similar to the other options, the ODI cap and collar is calculated on a post-tax basis, consistent with the final determination. In this option, an adjustment is required (by factoring either the aggregate ODIs or the cap/collar) to ensure comparability before the application of the cap.

We do not consider there are any credible options for treating RCV ODIs as pre-tax values, without significant departure from Ofwat's existing approach of allowing post-tax returns based on the value of the RCV.

The table below summarises the three options. Where an option is marked as 'post tax', this means that the reward/penalty is considered to be net of tax, and hence the tax impact is taken into account separately.

Table 14 Options

Option	Option 1	Option 2	Option 3
RCV Adjustments	Post tax	Post tax	Post tax
Revenue adjustments at PR19	Post tax	Post tax	Pre tax
Revenue adjustments in-period	Post tax (but no tax adjustment for in-period ODIs)	Post tax	Pre tax

Recommendation

Overall, we recommend that Ofwat accounts for the tax impacts on top of the ODI rewards and penalties as this is most consistent with the overall post-tax framework and does not cause distortions between RCV and revenue adjustments for equivalent ODIs. To promote consistency between in-period and end-of-period rewards/penalties, we recommend that in-period ODIs are adjusted for tax (in-period ODIs are factored up using the marginal statutory tax rate) - i.e. **Option 2.**

We highlight that our recommendation is finely balanced and there are advantages and disadvantages with all of the options. Ofwat may wish to invite consultation responses on this issue, in particular whether companies or customers should fund the tax impacts of rewards/penalties and how this approach aligns with the calibration of incentives.

Supporting assessment

Table 15 RAG assessment

Criteria	Option 1 Tax adjustments are made for end-of-period ODIs	Option 2 Tax adjustments are also made for in-period ODIs	Option 3 Tax adjustments are not made (except for RCV ODIs)
Customer benefits	🟡	🟡	🟡
Company financeability	🟢	🟢	🟢
Consistency with final determination and other relevant documents	🟡	🟡	🟡
Risk of perverse incentives	🟡	🟢	🟡
Company ownership and accountability	🟢	🟢	🟢
Consistency with other reconciliation tools	🟢	🟢	🟡
Straightforward and clear to implement	🟢	🟡	🟢
Preferred option	✗	✓	✗

Table 16 Notes to assessment

Option		Notes to assessment
Option 1 – Tax adjustments are made for end-of-period ODIs only	✓	This is consistent with Ofwat's post-tax regulatory regime and with treatment of PR09 adjustments, which were also undertaken on a post-tax basis.
	✓	The option is also consistent with the published treatment of RCV and avoids arbitrage between RCV and revenue adjustments
	✗	For ODIs which draw on willingness-to-pay data, there is a risk that the total value of the customer-funded rewards would exceed (central case) willingness-to-pay estimates. However, we note that customers would receive higher compensation if companies incurred net penalties (companies would not retain the benefit of the higher tax allowance).
	✗	Might appear inconsistent with the final determinations because the ODI cap would be implemented as post tax, without the need to factor the cap/ODIs.
	✗	Potential risk of perverse incentives on companies to distort decisions between in-period and end-of period ODI (though we expect this risk would be very minimal).
Option 2 – Tax adjustments are made for all ODIs (preferred)	✓	As for 1, except better equivalence of treatment between in-period and end-of-period ODIs.
Option 3 – no tax adjustments are made, except for RCV ODIs	✓	Consistent with the interpretation of final determination, whereby the post-tax cap is implemented via factoring ODIs to account for tax
	✓	Companies would not receive higher compensation if they incurred net rewards (though we also note that customers would receive lower compensation if companies incurred net penalties).
	✗	Inconsistent with Ofwat's general approach, which is a post-tax regulatory regime.
	✗	Risk of perverse incentives; there would be incentives for companies to distort decisions between RCV and revenue adjustments in future.

3.4. Reconciling 2010-15 performance: 2014-15 adjustments

Summary of this section: *This section covers three issues:*

At the time of the final determination, some years were blind (in other words full data was not available). In the final determination, Ofwat stated that it would take a proportionate approach to the reconciliation of PR09 incentive mechanisms for blind years (for example, applying materiality thresholds where appropriate). We recommend that the materiality of blind year adjustments is +/-2% of service turnover for revenue adjustments and +/-0.5% of company opening RCV for RCV adjustments.

The CIS models used at PR14 to calculate adjustments to revenue use provisional and company forecasts for the COPI index in the absence of published data. As announced by the Department for Business, Innovations & Skills (BIS) in December 2014, COPI is undergoing review and the release of the index is currently suspended. Before the announcement in December, it would have been the June 2016 release when firm values for the blind year would be available. We recommend using published COPI data when it becomes available to prevent reliance on company forecasts.

In the final determinations Ofwat noted the CIS methodology used two different approaches for indexation in the RCV adjustment. Ofwat stated that, if change was required, there was an approach which would have resulted in lower opening RCVs across all companies. Ofwat did not make a change at the time as it had made the final determination in the round but stated that it would consult shortly on whether a prospective adjustment was required. We recommend an adjustment to the company RCVs in PR19 and no claw back of revenues earned over the price control period.

3.4.1. Reconciliation of RCVs: to correct the RPI series

Overview of issue

The final price control determination notice: policy chapter A4 – reconciling 2010-15 performance outlines the approach used for indexation within the CIS models for the RCV and revenue adjustments. For the RCV adjustment, the CIS compares allowed capex indexed using the construction output price index (COPI) forecast at the time of PR09 final determinations (FD COPI) with actual capex, and deflates this difference using outturn RPI. For the revenue adjustment, the CIS compares allowed capex indexed using FD COPI and then deflated to 2007-08 prices using RPI forecast at the time of PR09 with actual capex deflated to 2007-08 prices using outturn RPI.

Policy Chapter A4 reported that Severn Trent Water had raised a representation on the different approach to indexation between the RCV and revenue adjustments in the CIS model. It stated that the revenue adjustment generated a clawback on the financing cost for the difference between the level of FD RPI forecast at PR09 and the higher outturn values in the period 2010-15.

After reviewing Severn Trent Water's submission in October Ofwat agreed that changes could be made to the CIS methodology, in the ways suggested by Severn Trent Water, which would be favourable to the company. However, it was stated that, if change was required, there was an alternative approach which would be to base the RCV adjustment for allowed capex on the difference between COPI and RPI forecast at the time of the PR09 final determinations. This would bring the approach to indexation in the RCV adjustment in line with the revenue adjustment. This alternative approach would have resulted in lower opening RCVs across all companies in April 2015. At the time Ofwat did not change the approach to indexation for the final determinations as it was considered that a late change of this nature would have risked creating regulatory uncertainty which was not in the long term interests of customers. Ofwat also stated that it had made its "final determination in the round, taking account of the RCV adjustment that companies have received through the 2010-15 CIS true-up, and allowing investors a reasonable return (with scope for out- and underperformance) on that basis".

For the period beyond 2015-20, Ofwat stated that it would engage with stakeholders and consider whether the approach used in the CIS model at PR14 was is in the long term interests of customers. If after consultation

Ofwat decided that it would be appropriate to make some adjustment at PR19, it also said that it would not adjust retrospectively for the revenues received in the 2015-20 period. Any change would have a prospective effect only, and would be applied industry-wide.

Options

We have considered three options for the appropriate approach of indexing allowed capex in the CIS models.

Table 17 Options

	Purpose	Option 1 Alternative approach	Option 2 FD Ofwat approach	Option 3 Severn Trent approach
RCV adjustment	COPI assumption	PR09 FD	PR09 FD	PR09 FD
	RPI assumption	PR09 FD	Outturn	Outturn
Revenue adjustment	COPI assumption	PR09 FD	PR09 FD	PR09 FD
	RPI assumption	PR09 FD	PR09 FD	Outturn

Recommendation

We recommend **option 1,** the alternative approach. This uses the final determination COPI and RPI assumptions for both the RCV and financing cost adjustment. This aligns the indexation approach across the different adjustments and would avoid a situation where the RCV was inflated only as a result of a difference between outturn and forecast rates of inflation.

Supporting assessment

Table 18RAG assessment

Criteria	Option 1 Alternative approach	Option 2 FD Ofwat approach	Option 3 Severn Trent approach
Customer benefits	🟢	🔴	🔴
Company financeability	🟢	⚪	⚪
Consistency with final determination and other relevant documents	🟢	⚪	⚪
Risk of perverse incentives	🟢	⚪	⚪
Company ownership and accountability	🟢	⚪	⚪
Consistency with other reconciliation tools	🟢	⚪	⚪
Straightforward and clear to implement	🟢	⚪	⚪
Preferred option	✓	✗	✗

Table 19 Notes to the assessment

Option	Notes to assessment
Option 1 – Alternative approach (preferred)	✓ This approach aligns the RPI series used in both the RCV and revenue adjustments used in the CIS calculation.

Option		Notes to assessment
	✓	The overall impact is a reduction in the opening RCV in the next price control period which will benefit customers into the future. With a lower RCV, customer bills would be lower to reflect lower returns to companies into the future.
Option 2 – FD Ofwat approach	✓	This would retain the approach to the RCV and the revenue adjustments in line with the final determinations for 2015-20.
	×	This would have an adverse impact on future customers as RCVs would be higher and therefore customer bills would reflect higher returns to companies into the future. This results in a "red" score on the customer benefits criteria and we therefore do not proceed with further RAG assessment in table 18.
Option 3 – Severn Trent approach	×	This approach would maintain a difference in the inflation indices used in the RCV and revenue adjustments.
	×	This would lead to an increase in the revenue from the financing adjustment for the only reason that outturn RPI has been higher during 2010-15 than was forecast at the time of the PR09 final determinations. Ofwat's approach to setting price controls leaves companies to manage inflationary risk given the indexation of both revenues and the RCV.
	×	This would have an adverse impact on future customers as RCVs would be higher and therefore customer bills would reflect higher returns to companies into the future. As for option 2, this results in a "red" score on the customer benefits criteria and we therefore do not proceed with further RAG assessment in table 18.

3.4.2. Reconciliation of RCVs: adjustment at PR19

Overview of issue

The capital expenditure incentive scheme (CIS) was first introduced in PR09 to incentivise both cost outperformance and accurate business plans for capital expenditure.

As noted, two difference inflation measures are used in the CIS methodology RCV and financing costs adjustments:

- For the RCV adjustment, Ofwat uses final determination COPI less Actual RPI
- For the financing cost adjustment, Ofwat uses final determination COPI less final determination RPI

An alternative approach would adjust the allowed capital expenditure in the RCV element of the CIS models, by using the same inflation index as the adjustment made to financing costs (final determination COPI less final determination RPI). This alternative was not applied at the time of the final determinations, but Ofwat signalled that it would be considering the issue further. Ofwat provided additional guidance for companies as part of the final determinations:

'For the period beyond 2015-20, we would like to engage with stakeholders and consider whether this approach to adjusting for inflation, which may have resulted in a slightly different 2015 opening RCV (as a result of indexation) for all companies, is in the long term interests of customers. It will be appropriate for us to consult shortly on how we approach any adjustment to the RCV at PR19 as a result of indexation. If we consider an adjustment would be appropriate, there would be no need to adjust retrospectively for the revenues received in the interim... any change would have a prospective effect only, and would be applied industry-wide.' [4]

[4] Final price control determination notice: policy chapter A4 – reconciling 2010-15 performance

Here we consider the options for making an adjustment to the RCV at PR19 to correct for the different inflation indices used in the CIS model.

Options

Although in principle there are a range of potential options for adjusting for inflation, only three options are consistent with Ofwat's statement that any adjustment would have a prospective effect only. The options we have assessed are set out below.

Table 20 Options

Option	Description
1. Do nothing	No adjustments are made at PR19.
2. Adjust RCV based on PR14 closing value	The RCV is adjusted in PR19 for the value at the end of PR14 which includes the impact of run off through the period 2015-20. E.g. PR14 opening RCV less run off at company specific run off rates.
3. Adjust RCV based on PR14 opening value	The RCV is adjusted in PR19 for the value at the beginning of PR14 which has not had the impact of run off. Run off is clawed back through the RCV rather than through a revenue adjustment.

Recommendation

We recommend Option 2 as the preferred approach to addressing the inconsistency in the indexation approach taken for CIS at PR14. An adjustment to the RCVs will benefit customers through reduced bills in the longer term, beyond the next price review. Option 2 is consistent with Ofwat's commitment in the final price control determination notice that there will be no retrospective adjustments to revenue. As a result, companies will retain the benefit of higher revenues throughout 2015 -20. Overall, we consider that the RCV adjustment would be a clear, transparent and proportionate approach to addressing the indexation inconsistency.

Supporting assessment

Table 21 RAG assessment

Principles	Option 1 Do nothing	Option 2 Adjust RCV (PR14 closing)	Option 3 Adjust RCV (PR14 opening)
Customer benefits	🔴	🟢	🟢
Company financeability	⚪	🟢	🟢
Consistency with final determination and other relevant documents	⚪	🟢	🟡
Risk of perverse incentives	⚪	🟢	🟢
Company ownership and accountability	⚪	🟡	🟡
Consistency with other reconciliation tools	⚪	🟡	🟡
Straightforward and clear to implement	⚪	🟢	🟢
Preferred option	✗	✓	✗

Table 22 Notes to the assessment

Option		Notes to assessment
Option 1 – Do nothing	✓	The final determination is silent on the approach that will be taken so doing nothing remains an option. This is the same as Option 2 in Table 18.
	×	With no adjustment to company RCV or associated revenue adjustment customers will be impacted through a higher RCV through PR19 and beyond which would ultimately result in higher bills in the longer term. This results in a "red" score on the customer benefits criteria and we therefore do not proceed with further RAG assessment in table 18.
Option 2 – Adjust RCV based on PR14 closing value (preferred)	✓	This is in line with Ofwat's statement in the final determination that there would be no retrospective adjustment to revenue. As a result companies would retain the benefit of revenues earned (run off and return) through 2015-20.
	✓	Customers benefit through lower bills in the future as RCVs would be reduced.
Option 3 – Adjust RCV based on PR14 opening value	×	This is inconsistent with the final determination as although the adjustment is to the RCV at the beginning of PR19, the run off on the RCV is also clawed back which in essence could be argued to be a retrospective adjustment
	✓	Customers benefit through lower bills in the future through a reduced RCV.

3.4.3. Blind year' reconciliation: materiality

Overview of issue

The PR14 final determinations were set without visibility of companies' actual performance in 2014-15 (i.e. Ofwat and the companies were 'blind' to actual 2014-15 performance).

The blind year reconciliation applies to the following mechanisms:

- CIS – Revenue and RCV
- Change protocol including PR09 overlap – RCV (these are included in the CIS model)
- RCM – Revenue
- Serviceability – RCV

Blind year reconciliations may result in adjustments to RCV and revenue across each of the PR09 incentive mechanisms. Ofwat has said it will take a 'proportionate' approach to determine if true-up adjustments should be reflected in the PR19 price control:

A final reconciliation of the mechanisms will be undertaken in the summer of 2015 to take into account companies' actual performance and expenditure in 2014- 15 (with the CIS being reconciled in 2016). In carrying out this reconciliation we will take a proportionate approach (for example, applying materiality thresholds where appropriate) to making adjustments for company's actual performance and implement these changes at the next wholesale price control review in 2019.[5]

Options

1. Adjust each of the mechanisms in full in PR19, with no threshold materiality values.
2. Apply materiality to all of the legacy mechanisms in aggregate using +/-2% of service turnover (2014-15) for revenue adjustments and +/-0.5% of company opening RCV (2014-15) for RCV adjustments.

[5] PR14 final determinations, policy chapter A4 reconciling 2010-15 performance

3. Apply materiality to legacy mechanisms individually using the same thresholds as above.

Our recommendation on the revenue adjustment materiality threshold draws on analysis set out as part of the consultation on WRFIM in April 2014 which analysed the 2010-15 wholesale water revenue forecasting error as a percentage of annual turnover by company. The analysis shows that the average annual forecast error for water (adjusted standard deviation) varies from 1.97% to 2.78% and for wastewater the variance is from 2.07% to 2.39%.

We consider that in future company forecasts are likely to be more accurate (due to the scope for greater pricing flexibility and greater metering penetration facilitating demand management. We recommend setting materiality slightly below the historic standard deviations of revenue forecasting variances.

We consider that the RCV adjustment materiality threshold should be +/-0.5% of company RCV. This reflects the serviceability shortfalls across water and wastewater within the PR14 final determinations which range from 0.1% to 1.5% of RCV.

Recommendation

We recommend that Ofwat adopts **Option 2.** That is, Ofwat should adopt an aggregate materiality of +/-2% for revenue and +/-0.5% for RCV. This is more reflective of the total impact on customers. We consider this to be a proportionate approach which will give rise to adjustments for some companies but not all companies where they had submitted accurate forecasts for RCV and revenue and where they have met serviceability standards. We note that there is also a case for not applying any materiality threshold given that the models may be run for all data in any case. Ofwat may want to consult on this.

We recommend that Ofwat consult on the materiality thresholds set out above.

Supporting assessment

Table 23 RAG assessment

Principles	Option 1 No materiality	Option 2 Material in aggregate	Option 3 Material individually
Customer benefits	🟢	🟡	🟡
Company financeability	🟢	🟢	🟢
Consistency with final determination and other relevant documents	🟡	🟢	🟡
Risk of perverse incentives	🟢	🟢	🟢
Company ownership and accountability	🟢	🟢	🟢
Consistency with other reconciliation tools	🟢	🟢	🟢
Straightforward and clear to implement	🟢	🟡	🟡
Preferred option	✗	✓	✗

Table 24 Notes to assessment

Option		Notes to assessment
Option 1 – No materiality	✗	Within the final determination Ofwat set out that a proportional approach would be used to assess whether blind year true-up for legacy mechanisms would be used. Making all adjustments would not be in line with the sentiment of the final determinations.

Option		Notes to assessment
Option 2 – Material in aggregate (preferred option)	✓	Ofwat set out in the final determinations that a proportionate approach would be used for legacy blind year reconciliations using materiality where appropriate.
	✓	Assessing materiality for legacy mechanisms in aggregate is a more proportionate approach. It is to the benefit of customers as revenue and RCV adjustments are looked at in the round and therefore are more likely to penalise companies for inaccurate forecasting.
Option 3 – Material individually across mechanisms	×	Ofwat set out in the final determinations that a proportionate approach would be used for legacy blind year reconciliations using materiality where appropriate. Individual mechanisms are more likely to be below the thresholds set, so this is not considered to be taking a fully proportionate approach.
	×	Assessing mechanisms individually may give rise to partial revenue or RCV adjustments for some mechanisms but not for others and therefore does not assess materiality in the round. It is also slightly more complex to implement.

3.4.4. Updates to COPI in the CIS models

Overview of issue

Ofwat introduced the capital expenditure incentive scheme (CIS) in PR09 to incentivise both cost outperformance and accurate business plans for capital expenditure. Due to the absence of actual capex data for 2014-15 at the time of the final determinations (i.e. Ofwat and the companies were 'blind' to the final year outturn data) there is a need for an ex-post reconciliation of rewards and penalties taking into account overall actual capex costs for the 2010-15 period.

COPI actuals are required to calculate the blind year adjustment for the CIS. However, given that published COPI actuals are not currently available and it is not known when a revised COPI series will be released, a decision needs to be made about the COPI that is used to calculate the CIS blind year adjustment and the timing of the reconciliation in order to finalise the adjustment for PR19.

COPI is published quarterly by the Department of Business Innovation and Skills (BIS). There are currently concerns about the accuracy of the index and as a result BIS has suspended the publication of the index. A revised index is being developed and it is not known when it will be published. The suspension of the COPI index creates a number of risks for the CIS reconciliation;

1. There is a risk that 'firm' indices will not be available within the timetable required to reconcile the PR09 mechanisms
2. There is a risk of unanticipated consequences which arise when the index is potentially revised or rebased.
3. There is a risk that the COPI index is discontinued requiring the formulation of an alternative methodology.

Consideration is therefore given to a number of alternative approaches to the application of COPI to address these risks.

Options

There are three options to determine the COPI to use in the CIS models:

Option 1: Adjust COPI in the PR09 incentive mechanism models when the updated index is available. Under this option a calculation may need to be devised to adjust the revised index to an index that is consistent with that used at PR14 for COPI.

Option 2: Where the firm published data is unavailable, Ofwat could request companies submit their updated COPI forecast (contained within the companies' business plans) along with their annual reporting requirements. In addition Ofwat should use published data on COPI. At the time of this report the data available for COPI (based on financial years) is:

a. COPI data for 2012/13 is firm for all quarters;

b. COPI data for 2013/14 is published for one quarter firm and three quarters provisional; and

c. COPI data for 2014/15 is published provisionally for one quarter only.

Companies will be required to provide their updated forecasts for the remainder of the 2014/15 financial year.

Option 3: This option is as 2 above; however, Ofwat blend the individual companies COPI forecasts and apply one set of data to all CIS models.

Recommendation

We recommend that Ofwat adopt Option 1. Under this option, where accurate data is available, it is used. This is more closely aligned with the long term interests of customers and prevents the potential distortions that might arise from relying on company forecasts. We recognise that for consistency a calculation will need to be performed to align the revised index to the index that was used at PR14. However, we expect that the Office of National Statistics (ONS) (BIS are handing over responsibility for construction price and cost indices to ONS April 2015) will publish at least one quarter of parallel data of the revised index and legacy index, therefore, this calculation should not be onerous.

Supporting assessment

Table 25 RAG assessment

Principles	Option 1 Revised COPI	Option 2 June 2015 using company forecasts	Option 3 June 2015 with blended forecasts
Customer benefits	🟢	🟡	🟡
Company financeability	🟢	🟢	🟢
Consistency with final determination and other relevant documents	🟢	🟡	🟡
Risk of perverse incentives	🟢	🟡	🟡
Company ownership and accountability	🟢	🟢	🟢
Consistency with other reconciliation tools	🟢	🟡	🟡
Straightforward and clear to implement	🟡	🟡	🟡
Preferred option	✓	✗	✗

Table 26 Notes to assessment

Option		Notes to assessment
1. Use COPI when published (preferred)	✓	The final determination highlighted that the reconciliation for CIS would occur in 2016, this is due to the firm published index expected to be published in June 2016.
	✗	The final determination also highlighted that other legacy blind year reconciliations would take place in the summer of 2015. Therefore, the reconciliation of CIS would have a different time line
	✗	Due to the fact that the when COPI is published it is expected to be on a different basis to current COPI data used in the CIS models there may be a requirement to adjust the revised data to ensure it is used on a consistent basis as the data already used in the CIS models for the years 2010-2013.
2. Use actual COPI as	✗	The final determination stated that the CIS reconciliation would be delayed until 2016.

Option		Notes to assessment
	✗	Where the reconciliations use company forecasts there is a small risk of gaming, as companies could submit data that is to their benefit.
	✗	There could be variations between the forecasts and the actual data when it is published. The risk of performing the reconciliation earlier than planned is that the result may not be in the customers favour, even though the reconciliation could take place sooner in 2015.
	✗	Given that the true – up is to be performed to remove company forecasts with actual data it seems that there is no significant change in accuracy under option 2 where company data is carried forward.
3. Use actual COPI as far as possible and supplement with a blended forecast across all companies	✓	Option 3 is the same as option 2; however, there is reduced risk of companies gaming by submitting data that will work in their favour. This is because all companies would be subject to a blended COPI therefore minimising the impact of individual companies inaccurate forecasts.

3.5. Wholesale Revenue Forecasting Incentive Mechanism (WRFIM)

Summary of key recommendations:

Ofwat introduced WRFIM to improve companies' revenues forecasting within the wholesale revenue controls. WRFIM operates by comparing the allowed revenue with the recovered revenue and applies a penalty where the variance is greater than 2%.

The penalty has a two year time-lag. It impacts on notional allowed revenues after two years (notional, because there is no actual change to allowed revenues). For 2018-19 and 2019-20 the two year time-lag means that adjustments would fall outside of the 2015-20 price control period and in addition Ofwat will have incomplete data for the final year. We recommend adjustments are made at PR19 to prevent delay in applying the penalty – this benefits customers sooner.

3.5.1. PR19 Blind year adjustment

Overview of issue

WRFIM is a new mechanism introduced in PR14 to replace the Revenue Correction Mechanism (RCM) from PR09. WRFIM has been introduced to improve companies' revenue forecasting within the new flexible wholesale revenue controls.

The purpose of the proposed mechanism is to reduce the impact of deviations on customer bills arising from revenue forecasting deviations. The mechanism achieves this by:

- Adjusting companies' notional allowed revenues for each year to take account of differences between actual and projected revenues; and
- Incentivising companies to avoid revenue forecasting errors through applying a penalty to variations that fall outside the set revenue flexibility threshold.

The formula set out in 'Final price control determination notice: policy chapter A7 – risk and reward' will be used to calculate the WRFIM:

$$\mathrm{RFIM_t} = -\left\{(\mathrm{RR_{t-2}} - \mathrm{AR_{t-2}}) \times \left[1 + \left(\frac{\mathrm{I} + \mathrm{PR}}{100}\right)\right] \times \left[1 + \left(\frac{\mathrm{I}}{100}\right)\right]\right\} \times (1 + \mathrm{RPI_{t-1}}) \times (1 + \mathrm{RPI_t})$$

Where:

$\mathrm{RR_{t-2}}$ The revenue recovered in charging year t-2, with the first year subject to the adjustment beginning in 1 April 2015

$\mathrm{AR_{t-2}}$ The allowed revenue in charging year t-2, with the first year subject to the adjustment beginning in 1 April 2015, and with the allowed revenue from the charging years beginning 1 April 2017 being adjusted by the RFIM for that year. From year three onwards adjusted allowed revenues will be used to take account of penalties from prior periods.

I The specified discount rate, which enters the above formula as an integer. In line with our decision in the final determinations, the parameter for the period, 2015-20 will be 3.6 for most companies.

PR The penalty rate, taking a positive value if RR_{t-2} > [(1 + RFT) x AR_{t-2}], a negative value if RR_{t-2} < [(1 - RFT) x AR_{t-2}], or else being equal to 0. Denoting the forecast error $(RR_{t-2} - AR_{t-2})/AR_{t-2} = x\%$, the magnitude of penalty rate is: (i) 3% for all variations if $|x\%| > 3\%$; (ii) $3\% * (|x\%| - 2\%)/(3\% - 2\%)$ if $2\% < |x\%| < 3\%$. The result enters the above formula as a number. For example, for a penalty rate of 3%, the PR enters the formula as number 3.

RFT The revenue flexibility threshold. Lower threshold is 2% and upper threshold is 3%. It enters formula as an integer.

RPI_t The Retail Prices Index used for wholesale price controls for year t as specified in Condition B in the licence. The licence requires wholesale revenue controls to adjust by the percentage change in the RPI between the November in the current and previous years.

t The year of WRFIM adjustment.

There is a two year time lag between the year used to calculate the penalty (t-2) and the year the penalty is added to the allowed revenues (t) to calculate the adjusted allowed revenues. The adjusted allowed revenues are then used to calculate future variances between the allowed revenue and the recovered revenue to determine subsequent penalties. The mechanism operates on a cumulative basis i.e. the penalty for year 1 (2015-16) impacts year 3 (2017-18) and then year 5 (2019-20). The penalty for year 2 (2016-17) impacts year 4 (2018-19). Therefore, years 4 and 5 penalties that are applied with a two year time-lag in years 6 and 7 (2020-21 and 2021-22) are the only relevant years for the PR19 adjustments as they incorporate the impact of years 1-3 (2015-16 – 2017-18).

Due to the two year time-lag implicit within the mechanism, the difference between the allowed revenues and recovered revenues in the final two years of AMP6 (2018-19 and 2019-20) and any resulting penalty would be applied in 2020-21 and 2021-22, i.e. the first two years of AMP7.

- For the 2018-19 WRFIM calculation, full information on actual recovered revenues will be available to feed into the PR19 price control, however, the penalty does not fall due until year 1 (2020-21). Assuming the WRFIM continues into the next price control, the WRFIM formula produces a penalty for year 1 of PR19 (2020-21) calculated as an adjustment to allowed revenues.
- For 2019-20, there will be incomplete information as actual recovered revenues will not be known until the following year, this year is considered to be a ‘blind year’.

We considered how these issues could be addressed at PR19.

Options

We considered two options to take account of the blind year:

- **Option 1:** Request companies to forecast their recovered revenues for the blind year (2019-20). The reforecasts would be included in the business plans for PR19 data tables. The penalty for 2021-22 could then be included in the revenue adjustment made at PR19.
- **Option 2:** Exclude the penalty associated with the blind year (2019-20) from PR19 allowed revenue calculations. The penalty would then be included in the PR24 allowed revenues in full when there is full information available on both the actual recovered revenues for 2019-20 and actual RPI for November 2019-20.

Recommendation

We recommend that Ofwat adopts **Option 1** for the RRB consultation due to the fact that the majority of the penalty is crystallised earlier than under option 2 providing companies submit more accurate forecasts for the final year of the price control period as part of their PR19 business plans.

For the year 2018-19 there will be complete information on actual recovered revenues and RPI at the time of setting allowed revenues at PR19, therefore, adjustment will be made to allowed revenues for the incentive calculated through the WRFIM formula in PR19. Adjustment to the penalty for RPI and the specified discount will be required to recognise that the time lag would only be 1 year rather than 2 years per the WRFIM formula.

For the year 2019-20 there will not be complete information on which to calculate the penalty through the WRFIM formula (the blind year). For this year, we recommend that Ofwat requests forecasts for actual revenues from companies as part of the business planning process at PR19. As above, the penalty will be adjusted to remove the RPI and the specified discount rate recognising that no uplift would be appropriate in the final year as there is essentially no time-lag to account for.

Supporting assessment

Table 27 RAG assessment

Principles	Option 1 Reconcile at PR19 with true-up in PR24	Option 2 Reconcile at PR24 in full
Customer benefits	🟢	🟡
Company financeability	🟢	🟢
Consistency with final determination and other relevant documents	🟢	🟢
Risk of perverse incentives	🟢	🟡
Company ownership and accountability	🟡	🟡
Consistency with other reconciliation tools	🟢	🟡
Straightforward and clear to implement	🟢	🟢
Preferred option	✓	×

Table 28 Notes to the assessment

Option		Notes to assessment
Option 1 – Reforecast based on final year actual revenues, apply a penalty to allowed revenues in PR19 with a true-up in PR24 (preferred)	✓	This option is consistent with the final determination which states that where the licence doesn't allow for adjustments to allowed revenue within the current price control period, further adjustment will be required in PR24 to take account of the blind year.
	✓	It is consistent to reforecast for the blind year in line with other PR14 mechanisms and the approach taken to PR09 mechanisms.
Option 2 – Do not reforecast the final year. Adjust in full based on complete information in PR24	✓	As for option 1, this option is consistent with the final determination which states that a further adjustment will be required in PR24 for the blind year.
	✓	Where a penalty is expected for the final year (which is a cumulative impact from the penalties from years 1,3 and 5) this would not be adjusted until PR24, delaying the benefit to the customers through PR19. However, on an annual basis companies are able to adjust their charges such that they are recovering the adjusted allowed revenue (which includes the penalty calculated two years prior). The impact of this would be that current customers benefit from reduced charges.
	×	Across other mechanisms for the PR14 price control and indeed those mechanisms from PR09 there is a blind year adjustment based on forecast data included in PR19 with a true-up in PR24 for the difference in the incentive when updating the calculation to reflect actual data. It would be inconsistent to not follow that approach for the WRFIM calculation.
	×	Companies could delay the penalties by over-recovering revenues in the final year, knowing they won't receive a penalty for it until PR24.

3.5.2. Interaction with ODIs

Overview of issue

In the final determination (policy chapter A7 – risk and reward) Ofwat noted the following:

Anglian Water Services, Severn Trent Water and South West Water asked to take the rewards and penalties for some of the performance commitments that each of them was proposing in-period (that is, ahead of the next price review). We have provided all companies with the same 'generic' draft licence text to allow for the in period changes which the companies are seeking. We are now consulting on the text of the licence modifications which has been agreed in principle with the companies concerned. When any such licence changes have been agreed we will discuss with the affected companies any consequential need to modify the terms of WRFIM as appropriate.

WRFIM does not adjust allowed revenues within the period, rather it makes a 'notional' adjustment to allowed revenue in year t to reflect the incentives applicable to year t-2. The incentives are applied to allowed revenues in the next price control period.

For the three companies with licence modifications, we considered whether (and how) in-period ODIs should be captured within the WRFIM calculation. The final determinations do not conclude as to whether the ODIs will be in scope for the WRFIM, however, they recognise there are interactions that require consultation.

Options

We considered two options for incorporating adjustments to allowed revenues (and recovered revenues) within the WRFIM to reflect ODI rewards or penalties.

- **Option 1:** Include in period ODI adjustments in the WRFIM calculation. This would impact the allowed revenues used to compare against actual recovered revenues to evaluate the incentives under the WRFIM formula.
- **Option 2:** Exclude in period ODI rewards / penalties from WRFIM calculations. For the purposes of WFRIM assume that ODIs are all reconciled at the end of the price control period as part of the PR19 and PR24 price review. In essence, this could mean that ODIs would need to be excluded from both the revised allowed revenues and also the recovered revenues.

Recommendation

We recommend **Option 1**. That is, in-period ODIs should be included in the WRFIM. This option provides the greatest transparency in allowed revenues, accurately reflecting the modified licence conditions. To exclude ODI reward / penalties from WRFIM would add greater complexity as the impact of ODIs would need to be removed out of the recovered revenues to ensure a like for like comparison.

Supporting assessment

Table 29 RAG assessment

Principles	Option 1 Reconcile at PR19 with true-up in PR24	Option 2 Reconcile at PR24 in full
Customer benefits	●	●
Company financeability	●	●
Consistency with final determination and other relevant documents	●	●
Risk of perverse incentives	●	●
Company ownership and accountability	●	●

Principles	Option 1 Reconcile at PR19 with true-up in PR24	Option 2 Reconcile at PR24 in full
Consistency with other reconciliation tools	●	●
Straightforward and clear to implement	●	●
Preferred option	✓	×

Table 30 Notes to the assessment

Option		Supporting narrative for the assessment
Option 1 – Include in period ODI adjustments (impact on allowed revenues) in WRFIM (preferred)	✓	Given that rewards / penalties for in-year ODIs will impact allowed revenues, it would be reasonable to reflect this in the WRFIM calculations.
	✓	If allowed revenues are adjusted in the WRFIM calculation this would accurately reflect the ability of those companies to take rewards and penalties within the price control period.
	✓	Indexation of ODIs and WRFIM will need to be kept consistent to reduce complexity of WRFIM for the three companies with licence modifications. As discussed earlier in this report, this is addressed by using the same indexation series for both ODIs and WRFIM.
Option 2 – Exclude in period ODI adjustments from WRFIM	✓	Option 2 - Exclude in period ODI adjustments from WRFIM Greater degree of complexity if ODIs are excluded from WRFIM as they will need to be removed from recovered revenues.
	✓	Clawing back revenues on the impact of rewards / penalties would be avoided if ODIs were not included in WRFIM.
	×	Not reflecting accurate allowed revenues to account for the impact of in period penalties / rewards in WRFIM would be inconsistent with other reconciliations that do adjust allowed revenues.

3.6. Household retail

Summary of key recommendations:

Allowed revenue is calculated based on forecast customer numbers at the beginning of the price control period 2015-20 and on revenue per customer. Any difference between forecast customer numbers and actual customer numbers needs to be reconciled to ensure that companies can recover the correct revenues for their actual number of customers. The mechanism for doing this was set out in the final determination, however, the process and timing was not defined. In addition, where companies recover more or less revenue per customer type reconciliation is required.

We recommend that Ofwat:

1 Allows companies to reforecast actual customer numbers in each year and then adjust revenues for the differences between actual and reforecast customers at the end of the period in 2020.

2 Makes adjustments to variances in retail revenues at the end of the period (2020) where companies have over-recovered revenue per customer.

This section addresses the two reconciliations separately, firstly the reconciliation required for customer numbers in section 3.6.1 and second the reconciliation required for revenue per customer type in section 3.6.2.

3.6.1. Reconciliation of customer numbers

Overview of issue

Allowed revenue is calculated based on forecast customer numbers at the beginning of the price control period and allowed revenue per customer. Any difference between forecast customer numbers and actual customer numbers needs to be reconciled.

Ofwat has set out the methodology for reconciling customer numbers in the final price control determination notice: policy chapter A5 – household retail costs and revenues and in setting price controls for 2015-20 – final methodology and expectations for companies' business plans.

Ofwat's preferred approach to household retail controls was to set a total revenue control for each company, based on the efficient costs of retail activities (as measured by the adjusted average cost to serve) and projected customer numbers.

The formula for adjustments to allowed revenues to take account of a variance in customer numbers between the forecast and the actual is as follows:

$$Revenue\ modification = \sum_{y=1}^{5}\sum_{c=1}^{6}(actual\ customer\ numbers_{y,c} - forecast\ customer\ numbers_{y,c}).modification\ factor_{y,c}$$

Where y=years (2015-16 to 2019-20) and c=customer type

The forecast customer numbers and modification factors are set out in the company specific appendix in the final determinations.

Where the reconciliation is predetermined as explained above there are options for how this will operate in practice to allow companies to recover additional revenues if they have more customers than forecast or for Ofwat to claw back revenues on behalf of customers if companies have fewer customers than forecast.

Options

There are three options that have been assessed against the reconciliation rulebook assessment criteria

- **Option 1:** Allow companies to reforecast actual customer numbers at the beginning of each year and recover revenues from customers on this basis. A reconciliation is performed annually, to compare forecast and actual customer numbers and the revenues that should be recovered in line with the price control methodology. There will then be a reconciliation to account for differences between actual and reforecast customers at the end of the 2015-20 price control period with a further true-up at PR24 for the blind year.
- **Option 2:** Allow companies to reforecast actual customer numbers at the beginning of each year and recover revenues from customers on this basis. A reconciliation is performed annually to compare forecast and actual customer numbers and the revenues that should be recovered in line with the price control methodology. There will then be a reconciliation to account for differences between actual and reforecast customers adjusting company revenues with a two year time-lag with a further true-up at PR24 for the blind year. The two year time-lag would allow earlier intervention from Ofwat and adjust company revenues such that current customers would benefit.
- **Option 3:** The annual reconciliation will be performed as per the companies' licence. There will be no true-up for the change in customer numbers throughout or at the end of the period. The responsibility will be with companies to adjust their charges through the period to match allowed revenues. Ofwat has the option to intervene where the difference is material.

Recommendation

We recommend Ofwat adopts **Option 1**. That is, a reconciliation should be performed at the end of the price control period to compare forecast and actual customer numbers. This option strikes a balance between providing customers with smoother bills and encouraging companies to take ownership of their forecasting and charging.

Supporting assessment

Table 31 RAG assessment

Principles	**Option 1** **Reconcile at the end of the period**	**Option 2** **Reconcile with two year time-lag**	**Option 3** **No reconciliation**
Customer benefits	🟢	🟢	🟡
Company financeability	🟢	🟢	🟢
Consistency with final determination and other relevant documents	🟢	🟡	🟢
Risk of perverse incentives	🟢	🟢	🟡
Company ownership and accountability	🟢	🟡	🟡
Consistency with other reconciliation tools	🟢	🟢	🟡
Straightforward and clear to implement	🟢	🟡	🟢
Preferred option	✓	✗	✗

Table 32 Notes to the assessment

Option		Explanation/rationale
Option 1 – Allow companies to re-forecast with a reconciliation at the end of the price control period (preferred)	✓	Reconciling customer numbers on an annual basis is part of the methodology outlined in the final determination. However, the requirement for companies to submit re-forecasts was not explicitly stated.
	✓	This option should result in smoother customer bills, as continual reforecasting means that adjustments required at the end of the period are expected to be minimal.
	✗	Ofwat would need to request companies to submit their re-forecasts as part of the annual reporting cycle. This is additional to the information currently set out in the RAG Proforma tables (though we note this could be amended).
	✗	Across all options there is a small risk that companies may seek to profile revenue to their advantage. This is heightened in this option where an adjustment would be made at the end of the price control period.
Option 2 – Allow companies to re-forecast with a reconciliation to adjust revenues with a two year time-lag	✓	Allowing companies to reforecast customer numbers at the beginning of each year allows smoother billing through the period.
	✓	The risk of distortions to the revenue profile is reduced as an adjustment to revenues would be made on a lagged two year basis.
	✗	Less company ownership during the price control period with a shorter reconciliation period and earlier Ofwat intervention.
	✗	As for option 1, there is a small risk that companies may seek to profile revenue to their advantage and there would need to be amendments to the RAG Proforma tables.
Option 3 – No reconciliation at the end of the period	✓	The final determinations are silent on whether there is a true-up at the end of the period or during the period.
	✗	If there are variations through the period there would be no mechanism in place to adjust company revenues.
	✗	Given the annual reconciliation is being performed in line with the licence, to make no adjustment where there are variances would be inconsistent with the intent of the modification reconciliation and could give rise to perverse incentives.

3.6.2. Reconciliation of revenue allowance per customer by customer type

Overview of issue

There is a risk that companies recover average higher revenue per customer than that set out in the company specific appendix in the final determinations, for example, to correct where retail revenue is £11 per metered customer compared to an allowance of £10.50.

In the draft determination technical appendix A6 – risk and reward Ofwat determined that a similar incentive mechanism to WRFIM would not be used for retail as variances were considered to be immaterial and not proportional to likely variances between allowed and recovered revenue in wholesale. Ofwat explained that the preferred approach to household retail controls was to allow companies flexibility to adjust charges to reflect differences between their allowed revenues and actual collected revenues.

Options

We have considered two options:

- **Option 1:** Ofwat place the onus on companies to undertake a reconciliation of the allowance and actual revenue per customer and to adjust charges in subsequent years. Ofwat perform a revenue-per-customer reconciliation at the end of the period, for example to correct where retail revenue is £11 per metered customer compared to an allowance of £10.50.

- **Option 2:** Ofwat place the onus on companies to undertake a reconciliation of the allowance and actual revenue per customer and to adjust charges in subsequent years. Ofwat would reserve the right to make an adjustment where the variance is material.

Recommendation

We recommend that Ofwat consults on the basis of **Option 1**. That is, Ofwat should perform a revenue-per-customer reconciliation at the end of the period. This option allows Ofwat to make adjustments to variances in retail revenues where companies have over-recovered revenue per customer. We consider this to be in the interests of customers.

Supporting assessment

Table 33 RAG assessment

Principles	Option 1 Reconciliation	Option 2 No reconciliation
Customer benefits	●	●
Company financeability	●	●
Consistency with final determination and other relevant documents	●	●
Risk of perverse incentives	●	●
Company ownership and accountability	●	●
Consistency with other reconciliation tools	●	●
Straightforward and clear to implement	●	●
Preferred option	✓	×

Table 34 Notes to the assessment

Option		Notes to the assessment
Option 1 – Ofwat performs a revenue per customer reconciliation (preferred)	✓	This option allows Ofwat to intervene for the benefit of customers where there are variances (though differences in revenue are unlikely to be significant given the approach being used to reconcile customer numbers).
	✓	The PR14 documents do not provide for a revenue-per-customer reconciliation, though it is not inconsistent with the final determinations (which do not specifically cover the issue).
Option 2 – Ofwat doesn't perform a revenue per customer reconciliation	✓	There is greater focus on company ownership combined with the fact that reconciliations are unlikely to be large given the approach for customer number reconciliations.
	×	Less ability for Ofwat to intervene for the benefit of customers where there are variances and may give rise to perverse incentives.

3.7. Outcome delivery incentives

3.7.1. Definition of inputs – major schemes

Overview of issue

The details of Outcome Delivery Incentives are set out in Annex 4 of the company specific appendices to the PR14 final determinations.

During PR14, Ofwat required companies to put forward a range of ODIs to protect customers from future under-performance, including ODIs to protect customers from the **non-delivery of major schemes**, with penalties to claw back totex funding.

The key aims of these ODIs are: (i) to ensure that companies are incentivised to deliver the outcomes for customers associated with the delivery of major schemes and (ii) to ensure that customers are protected where a company fails to deliver on its commitments.

The form of major scheme ODIs differs between companies, as do the arrangements for measuring progress towards the delivery of the schemes. There are four main categories of ODIs related to major schemes, based on the information available in the final determinations and in the companies' business plans:

- Delivery of scheme – ODIs where the companies are incentivised to deliver the scheme in their entirety
- Delivery of statutory requirements – ODIs which are linked to meeting statutory requirements.
- Delivery of milestones – ODIs where the companies have identified detailed milestones and linked incentives to the delivery of these milestones.
- Delivery of measurable outcomes – ODIs where the companies have identified measurable outcomes linked to the delivery of the scheme.

There are a number of instances where it is not clear in the final determination how companies will demonstrate they have 'delivered' against milestones or the overall scheme. We have considered the benefits of seeking further details to clarify how delivery of these schemes will be assessed.

Options

We considered three options, which vary according to the degree of further Ofwat 'intervention' before PR19. These are:

- **Option 1:** no immediate intervention by Ofwat
- **Option 2:** Ofwat consults on a set of principles that will apply to the assessment of major scheme ODIs
- **Option 3:** Ofwat engages with companies to clarify the definition of delivery for major scheme ODIs, highlighting the benefits of transparency for all stakeholders

Recommendation

We recommend **Option 2** that Ofwat consults on a set of principles that will apply to the assessment of major scheme ODIs at PR19. For example, these principles could include:

- The final determinations takes precedence over any additional documentation published or produced by companies (e.g. if there are any inconsistencies between documents).
- At PR19, there will be a high burden of proof for companies to demonstrate they have delivered of the relevant scheme. For example, Ofwat may require companies to provide information to show that:
  - the scheme is operational; and/or

  - it has started to deliver benefits to its customers; and/or
  - an independent external party has confirmed the scheme has been delivered; and/or
  - significant milestones or benefits have been delivered, consistent with the definition of the ODI
- There may be cases where companies have delivered the outcomes related to a scheme by finding an alternative, more innovative solution. If companies can demonstrate this, then it may be appropriate for the non-delivery incentive to be removed or adjusted. However, companies would need to meet a higher burden of proof to demonstrate this given that it would represent a departure from the definition set out in the final determination. The non-delivery incentive will apply unless a company clearly demonstrates that they have delivered greater benefits to customers via an alternative scheme (to be reviewed on a case-by-case basis) or that the statutory requirement has been removed.

We note that this issue would have only a limited impact on the adjustment mechanism for ODIs, because it relates to the definition of an input (hence how performance is reconciled) rather than the reward/penalty calculation mechanism.

Supporting assessment

Table 35 RAG assessment

Principles	Option 1 Reconcile at the end of the period	Option 2 Reconcile with two year time-lag	Option 3 No reconciliation
Customer benefits	🟡	🟢	🟢
Company financeability	🟢	🟢	🟢
Consistency with final determination and other relevant documents	🟢	🟢	🟡
Risk of perverse incentives	🔴	🟡	🟢
Company ownership and accountability	🟢	🟢	🟢
Consistency with other reconciliation tools	🟢	🟢	🟢
Straightforward and clear to implement	🟢	🟢	🟡
Preferred option	✗	✓	✗

Table 36 Notes to the assessment

Option		Notes to the assessment
Option 1 – No immediate intervention	✓	Consistent with the principle that companies retain accountability for providing evidence of delivery and meeting final determination commitments.
	✗	Stakeholders are likely to expect further clarity on how delivery will be assessed.
	✗	Potential detriment to future customers if principles for assessment are not established. Without this clarity, companies are not incentivised towards innovation on major schemes.
	✗	Greater potential for different views on delivery, creating potential uncertainty at PR19 and potential need to intervene.
Option 2 – Ofwat doesn't perform a revenue per customer reconciliation	✓	While there is still some risk of uncertainty, this option provides stakeholders with further clarity and transparency around how performance will be reconciled.
	✓	Consistent with the principle that companies retain accountability for providing evidence of delivery and meeting FD commitments.

Option		Notes to the assessment
(preferred)	×	Still some potential for different views on delivery and hence uncertainty at PR19 or potential need to intervene at PR19.
Option 3 – Companies provide greater clarity	✓	Greater clarity revealed early on in the price control before actual performance is known.
	×	There is a chance that clarifications provided by the companies will result in inconsistencies with the final determinations.
	×	May be complex if clarification is made on a voluntary basis and could give rise to an uneven treatment across the companies.
	×	Potential need to intervene at PR19 if Ofwat is required to review significant amount of information related to delivery.

3.7.2. Definition of inputs – asset health

Overview of issue

Twelve companies have Asset Health ODIs based on composite indices, or basket measures of performance. There are a number of instances where it is not clear in the final determinations how the basket measures will be aggregated or composite index calculated. For example, in the case of Yorkshire Water's ODI: measures of water quality stability and reliability, the final determinations include the sub-measures used to assess performance, but does not specify how the overall assessment of "improving", "stable" and "deteriorating" is made. In addition, for this specific incentive, different penalties apply if an issue is "persistent", but the final determinations do not define "persistent".

In a number of cases companies provided Ofwat with separate documentation clarifying the operation of these mechanisms during PR14. However, these documents are not publicly available and not formally part of the final determinations. To ensure these ODIs can be implemented successfully we have considered whether companies should be required to provide further information ahead of PR19 and clarify the formulae that will be used to aggregate the underlying performance measures.

Options

- **Option 1:** Do nothing – consistent with company ownership of plans, it will be for companies to demonstrate their performance is in line with the headline measure.
- **Option 2:** Ofwat requires companies to provide further information on the operation of these indices and supporting formulae.

Recommendation

We recommend **Option 2** – that Ofwat seeks further clarity on the formulae that will be used to aggregate the underlying performance measures for asset health ODIs. Like with major schemes ODIs, Ofwat may wish to require companies to clarify with their CCGs the way in which these indices are calculated. (We note that this is a definitional issue which only has a limited impact on the rulebook).

Options assessment

Table 37 RAG assessment

Criteria	Option 1 Do nothing	Option 2 Companies provide clarity
Customer benefits	●	●
Company financeability	●	●

Criteria	Option 1 Do nothing	Option 2 Companies provide clarity
Consistency with final determination and other relevant documents	🟢	🟡
Risk of perverse incentives	🔴	🟢
Company ownership and accountability	🟢	🟢
Consistency with other reconciliation tools	🟢	🟢
Straightforward and clear to implement	🟢	🟢
Preferred option	✗	✓

Table 38 Notes to the assessment

Option		Notes to the assessment
Option 1 – Do nothing	✓	Retains company ownership and accountability for delivery.
	✗	Stakeholders may expect further information on how these indices will be calculated.
	✗	There is a risk of detriment to future customers from lack of clarity, for example if there are disputes over the achievement of ODIs at PR19.
	✗	Lack of transparency increases the risk of perverse incentives/gaming. Could require intervention at PR19, for example to review the operation of the mechanisms and resolve potential challenges.
Option 2 – Ofwat doesn't perform a revenue per customer reconciliation (preferred)	✓	Limits risks of perverse incentives/gaming by requiring formulae to be clarified early in the period.
	✗	May introduce some limited risk of inconsistency with final determinations as additional information is provided by companies though this could be mitigated.

3.8. Totex

Summary of key recommendations:

The adjustments generated from the totex menu will result in an adjustment to RCV and/or revenues at PR19. The published documents do not outline the approach for allocating the aggregate adjustment between RCV and revenue. We recommend using a weighted average PAYG based on a companies' totex baseline to avoid incentives to profile expenditure to increase revenues at PR19.

3.8.1. Allocation of totex out/underperformance to RCV and revenue

Overview of issue

The Pay-As-You-Go (PAYG) defines the proportion of totex that a company takes as cash every year, with the remainder being added to the RCV. At final determinations companies were able to choose their profile of PAYG rates (with Ofwat making some amendments). In most cases PAYG rates vary across the price control period. The value of totex under/over performance that would be retained as cash by a company from each year of the price control is assumed to vary proportionately with the PAYG rate.

The illustrative example in the table shows a falling annual PAYG rate combined with a falling allowed totex profile. While a company's decision to reprofile totex over the period will be affected by various considerations, there are two broad incentives at play to delay expenditure in this example. The first is to take advantage of the falling allowed totex profile as outperformance in earlier years allows the company to benefit from finance costs on unspent revenue. The second is to benefit from the high PAYG rate in earlier years. The higher the PAYG rate, the higher proportion of totex outperformance that will be converted to revenues at PR19. In the example we assume a company over spends by £50m during the price control. We assume a customer sharing factor of 50% and a menu choice of 100. We have not shown financing cost adjustments to the over/under spend differences for clarity.

The table shows four options for applying the PAYG rate to totex out/underperformance. In option 1, we allocate all of the totex under/over spend to revenue. In option 2 we allocate it to all to RCV. In option 3, we use the weighted average PAYG rate to allocate totex under/over performance with the weighting being the proportion of totex baseline in each year of the price control. (e.g. in year 1, it would be 120/400 =30%). Finally in option 4, we use the company's chosen PAYG rate.

Table 39 Illustration of PAYG options for allocating totex out/underperformance

	YR1	YR2	YR3	YR4	YR5	Rev.	RCV
Allowed totex £m (1)	120	120	100	40	20	400	
PAYG (2)	20%	20%	40%	60%	80%		
Actual totex £m (3)	30	30	70	110	210	450	
Under (over) spend (4) = (1) - (3)	90	90	30	(70)	(190)	50	
Sharing rate (5)	50%	50%	50%	50%	50%		

	YR1	YR2	YR3	YR4	YR5	Rev.	RCV
Option 1: Allocate all totex adjustment to revenue (PAYG rate of 1) (8) = (5)*(4)*1	(45.0)	(45.0)	(15.0)	35.0	95.0	25.0	0.0
Option 2: Allocate all totex adjustment to RCV (PAYG rate of zero) (9) = (5)*(4)*0	0.0	0.0	0.0	0.0	0.0	0.0	25.0
Option 3: Totex adjustment using weighted average PAYG rate (7) = (5)*(4)*0.55	(24.8)	(24.8)	(8.3)	19.3	52.3	13.7	11.3
Option 4: Totex adjustment using annual PAYG rate (6) = (5)*(4)*(2)	(9.0)	(9.0)	(6.0)	21.0	76.0	73.0	(48.0)

The table above presents the impact of allocating PAYG rates to the totex out/under performance:

- If the whole totex adjustment is allocated to revenue, the company receives a revenue adjustment of +£25m at the beginning of the next price control period. There is no impact on the companies RCV. This means customers in the next price control period face the full impact of the totex overspend in this period.
- If the whole totex adjustment is allocated to RCV, the company receives an RCV adjustment of +£25m at the beginning of the next price control period. There is no impact on the company's revenues. The totex overspend is therefore received as slow money and its impact on customer bills spread over a longer period of time.
- If a weighted average PAYG rate is applied to the out/under performance the company shares the totex overspend almost equally between an RCV and revenue adjustment at the beginning of the next price control period. Customers in the next price control period will therefore share the impact with customers further into the future more equally than in either options 1 or 2.
- Finally, if the annual PAYG rates are applied to totex out/under performance, the example demonstrates the significant incentive on the company to adjust its totex expenditure profile. The example shows how the company has been able to shift slow money to fast money and generate a significant revenue adjustment at the next price control that overcompensates for the totex over spend by almost four times. To balance this, a large RCV adjustment must be applied. The result is that customers in the next price control period could face disproportionately higher bills than the totex overspend would imply.

Of the four approaches, the third results in the most balanced impact to customer bills in the next price control period with future customers.

Options

1. Allocate all totex out/under performance to revenue
2. Allocate all totex out/under performance to RCV
3. Allocate totex out/under performance to RCV and revenue using weighted average PAYG rate
4. Allocate totex out/under performance to RCV and revenue each year using that year's PAYG rate.

Recommendation

We recommend **Option 3.** That is, the totex reconciliation mechanism should use a weighted average PAYG rate based on the proportion of the totex baseline in each year of the price control period, to allocate totex out/under performance to RCV and revenue.

Supporting assessment

Table 40 RAG assessment

Criteria	Option 1 Attribute all to revenue	Option 2 Attribute all to RCV	Option 3 Weighted average PAYG	Option 4 Annual PAYG
Customer benefits	🟡	🟡	🟢	🟡
Company financeability	🟢	🟢	🟢	🟢
Consistency with final determination and other relevant documents	🟡	🟡	🟢	🟡
Risk of perverse incentives	🟢	🟢	🟢	🟡
Company ownership and accountability	🟡	🟡	🟢	🟢
Consistency with other reconciliation tools	🟡	🟡	🟢	🟢
Straightforward and clear to implement	🟢	🟢	🟢	🟢
Preferred option	×	×	✓	×

Table 41 Notes to the assessment

Option		Notes to the assessment
Option 1 – All revenue	✓	Limits risks of gaming and perverse incentives as adjustment is independent of the company's chosen totex profile.
	×	Could have a large impact on customer bills in the next price control.
	×	Inconsistent with PAYG assumptions at PR14.
Option 2 – All RCV	✓	Limits risks of gaming and perverse incentives as adjustment is independent of the company's chosen totex profile.
	✓	Will have the lowest impact on customer bills in the next price control.
	×	Could reduce the link between company performance and customer bills.
	×	Inconsistent with PAYG assumptions at PR14.
Option 3 – Weighted average PAYG (preferred)	✓	Limits risks of gaming and perverse incentives as adjustment is independent of the companies chosen totex profile.
	✓	Ensures the results of totex out/under performance are shared most equally between customers in the next price control period and further into the future. This will happen irrespective of the expenditure profile chosen by the company.
	✓	It would provide a realistic baseline for company to justify why a different PAYG rate would be in customer interests, avoiding extreme positions unless they could be justified.
Option 4 – Annual PAYG	✓	Maintains consistency with PAYG assumptions from PR14.
	×	Will have a very significant impact on customer bills in the next price control period.
	×	Incentive on companies to generate significant benefits by adjusting their investment profiles to maximise their returns which will run counter to the policy intent and may cause potential detriment to future customers.

Appendices

Appendix: Material policy areas and other technical areas

Area	Policy matters (this report)	Other Technical matters addressed in the RRB in addition to the report (not in this report)
ODIs	• Definition of inputs (major schemes and asset health only) • Indexation of in-period ODIs • Definition of aggregate ODI cap and collar • Financing cost adjustments • Tax treatment of incentives •	• Description of outputs • Description of inputs • Price base for calculations • Description of ODI calculations, • Description of associated indexation, financing and tax calculations • Description of aggregate ODI cap calculation • Order of calculations • Source of data
Totex performance	• Allocation to RCV and revenue • Application of financing costs (covered in financing costs section) • Treatment of PR19 blind year (covered below)	• Alignment between baseline totex and actual totex • Description of outputs • Description of inputs • Description of calculations • Order of calculations • Price base for calculations • Source of data
WRIFM	• Treatment of the blind year • Interaction with in-period ODIs	• Description of outputs • Description of inputs • Description of calculations • Order of calculations • Price base for calculations • Source of data
Retail reconciliation	• Reconciliation for customer numbers • Reconciliation for over/under recovery of revenue per customer Treatment of PR19 blind year	• Description of outputs • Description of inputs • Description of calculations • Order of calculations • Source of data
Uncertainty mechanisms	• No specific policy matters addressed in this report	• Water business rates • Thames Tideway Tunnel uncertainty mechanism
PR09 Incentive mechanisms (PR14 blind year)	• Timing of the CIS blind year adjustment • Definition of "materiality" for making PR14 blind year adjustments at PR19	• Description of outputs • Description of inputs • Description of calculations • Order of calculations • Price base for calculations • Source of data

Area	Policy matters (this report)	Other Technical matters addressed in the RRB in addition to the report (not in this report)
PR09 Incentive mechanisms (CIS reconciliation at PR19)	• Reconciliation at PR19 to correct the RPI indexation series	• Description of outputs • Description of inputs • Description of calculations • Order of calculations • Price base for calculations • Source of data
PR19 Blind Year	• Treatment of PR19 blind year for relevant reconciliation mechanisms, discussed alongside the mechanism policy decisions	• This has been addressed in the individual policy sections of the rulebook