

11 July 2017

Trust in water

Delivering Water 2020: consultation on PR19 methodology

Appendix 13: Aligning risk and return

**Appendix to chapter 10:
Aligning risk and return**

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1 Summary

This appendix provides further detail on our proposals for risk and return set out in the risk and return chapter of the 2019 price review (PR19) methodology consultation document. For each area we set out the issues we are seeking to address, the options we have considered and the reasons for our proposed approach.

This appendix is set out as follows:

- Section 2 discusses our expectations for the scenario analysis and risk assessment that we should expect to see in business plans for companies to demonstrate they have identified and will manage and mitigate the impact of risk;
- Section 3 discusses our proposal to transition the indexation of price controls to CPIH. We set out the rationale for transitioning price controls to CPIH as the most legitimate measure of inflation;
- Section 4 sets out further details on the background to setting the cost of equity at PR19;
- Section 5 discusses our proposed approach to the cost of debt for PR19. This sets out the mechanics for the proposed indexation mechanism and the alternative approaches we have considered;
- Section 6 discusses our proposals for how we will calculate tax allowances for the 2020-25 period; and,
- Section 7 summarises the responses from our [September consultation](#) on the approach to the cost of debt.

2 Scenario analysis and risk assessment

All businesses have to deal with risk and uncertainty when operating and planning their activities. Companies should have a good understanding of the key risks affecting their business and how to model the impact of these. How well they are able to demonstrate and articulate this, will be a test in the initial assessment of business plans.

One way for companies to develop and demonstrate this understanding is through scenario analysis. At PR14, we used the return on regulated equity (RoRE) for such scenario analysis. RoRE is the financial return achieved by shareholders in an appointee during a price control period from its performance under the price control. The return is measured using income and cost definitions contained in the price control framework (as opposed to accounting conventions) and is expressed as a percentage of the notional equity in the business. It is useful to assess the impact of risk on the delivery of company business plans. We propose to use RoRE analysis again for scenario analysis for PR19.

This section sets out the scenarios and level of assessment we will be requiring from companies in their business plans. It is important to note that this is a minimum prescription of analysis. It is incumbent on companies to demonstrate they have a good understanding of the type and impact of risks that may impact on their performance and this should be consistent with the judgements taken on risk elsewhere in the business plans.

2.1 Scenario analysis

We propose to prescribe a minimum suite of key variables on which sensitivity analysis can be carried out and from which high and low case scenarios can be constructed. In the risk and return chapter, we propose companies should carry out sensitivities to show the impact of movements on RoRE of changes in revenue, totex, ODIs, C-MeX, D-MeX, retail costs and the cost of new debt. This is a smaller list of scenarios than we required at PR14.

We expect companies to consider sensitivities based on a high and low probability of events occurring. The scenarios should be designed to represent realistic high and low cases - they are not intended to reflect extreme possibilities. At PR14 we specified these at the P10/P90 range of probabilities. This means there is a 20 percent chance of the key risk factor(s) falling outside of the P10 and P90 assumptions used for the scenario. We consider this remains appropriate for PR19, but we invite views on this.

These P10 and P90 views may be estimated using historical evidence or expert judgement where there is no historical data or this is not appropriate. Companies should be clear about how these levels have been estimated. We expect companies to provide sufficient detail so that we can understand the basis for their calculations and the evidence in support of their estimates.

The evidence available may be different for the different variables. For example, for ODIs we may expect a mix of historical and expert evidence, C-MeX and D-MeX will be based on Ofwat's methodology and companies' own data about the expected range of performance and for totex companies could need to consider, amongst other things, input price fluctuations, the scope for efficiencies as well as any one-off events. As RoRE analysis is carried out on the notional financial structure, the performance against the cost of debt should consider the variation of the cost of new debt, taking account the range of expected performance against the proposed indexation mechanism. The RoRE ranges for these will depend on expected performance and the characteristics of a company's business plan. However, for ODIs, we have set an indicative range of return at risk (RoRE ± 1 to $\pm 3\%$), we therefore expect companies to provide supporting evidence if their proposals fall outside of this range. This evidence should cover why they believe the strength of their proposed package is in line with their customers' views and how it provides sufficient and appropriate incentive to stretching performance.

We will allow companies to specify their own scenarios. However, we expect them to substantiate it. In particular, companies should provide a commentary to support their assessment of the scenario impact. This should include details of any calculations used to estimate the impacts. The commentary should also describe how the upside and downside assessment has taken account of management responses. We will take all of this into account as part of the initial assessment of business plans to assess whether companies have a robust understanding of risk and management processes and practices.

Across all scenarios, we expect companies to explicitly include any actions they would take to mitigate the identified risks. In setting out evidence to support their modelling, we ask companies to clearly set out the assumptions about mitigation that have been included – and why they would not expect to take any further mitigation steps.

At PR14 we published economic information on which companies should base their assessment to assist companies with their modelling. We are currently not minded to do this for PR19, but instead ask companies to explain what assumptions they have made. We invite views on this.

Finally, for the purpose of RoRE analysis, scenarios in the financial model are calculated off the notional gearing of 62.5%, which is consistent with the approach we adopt in guidance for monitoring annual performance.

3 Our approach to the cost of equity

In the risk and return chapter we set out our main considerations around the cost of equity for PR19. In this appendix we discuss some of these in further detail.

Specifically:

- Our proposal to express the cost of capital at appointee level using the Capital Asset Pricing Model (CAPM);
- Details of the wider economic backdrop of low interest rates;
- Evidence relevant to the cost of equity for 2020-25; and
- Evidence on the impact of company size on the cost of equity.

We draw from the work PwC have completed for us¹, published alongside this document, as well as our own research and analysis.

3.1 High level approach

We propose to express the cost of equity at the appointee level using the Capital Asset Pricing Model (CAPM). This is consistent with our previous regulatory decisions and those of other economic regulators. We continue to consider CAPM the most appropriate approach to expressing the returns that investors require to invest in water and wastewater companies.

Within the CAPM framework we propose to use inputs for the Total Market Return (TMR) and the Risk Free Rate (RFR) to calculate the Equity Risk Premium (ERP):

$$\text{ERP} = \text{TMR} - \text{RFR}$$

We then multiply the Equity Risk Premium by the equity (levered) beta, and add it to the risk free rate to calculate the cost of equity (CoE):

$$\text{CoE} = \text{ERP} \times \text{equity beta} + \text{RFR}$$

¹ PwC, '[Refining the balance of incentives for PR19](#)', June 2017

The equity beta comprises the ungeared (asset) beta adjusted for the impact of financial leverage. It is reflective of the relative risk of the notional company to the rest of the stock market.

3.2 The wider economic backdrop

Since the global financial crisis in 2008, there has been a fundamental change in economic conditions. Central banks responded to the financial crisis by reducing the cost of borrowing for a prolonged period of time. This is evidenced in persistently low interest rates and low returns across a range of asset types, including equities.

We commissioned PwC to assess the impact of the changes in the UK economy on the water industry. In this work, PwC highlighted a range of factors affecting the UK economy that are likely to constrain prospects for growth in equity returns over the short to medium term. These include:

- Quantitative Easing (QE) policies by the Bank of England that specifically target (lower) long-term interest rates;
- Lower expectations of future growth, which may be linked to the real rate of interest;
- An aging population, which may reduce productivity and economic growth over the medium to long-term;
- A lower propensity to invest, which may reduce the demand for money and depress the natural interest rate;
- A higher propensity to save, which was attributed as a significant factor driving the lowering of global interest rates in the mid-2000s; and
- Changes in the supply and demand for investment in safe assets.

PwC concludes that all of these factors may have an impact on interest rates. PwC state that while some of these factors may unwind over time, any unwinding is likely to be gradual and that low long-term interest rates are likely to persist for the foreseeable future.

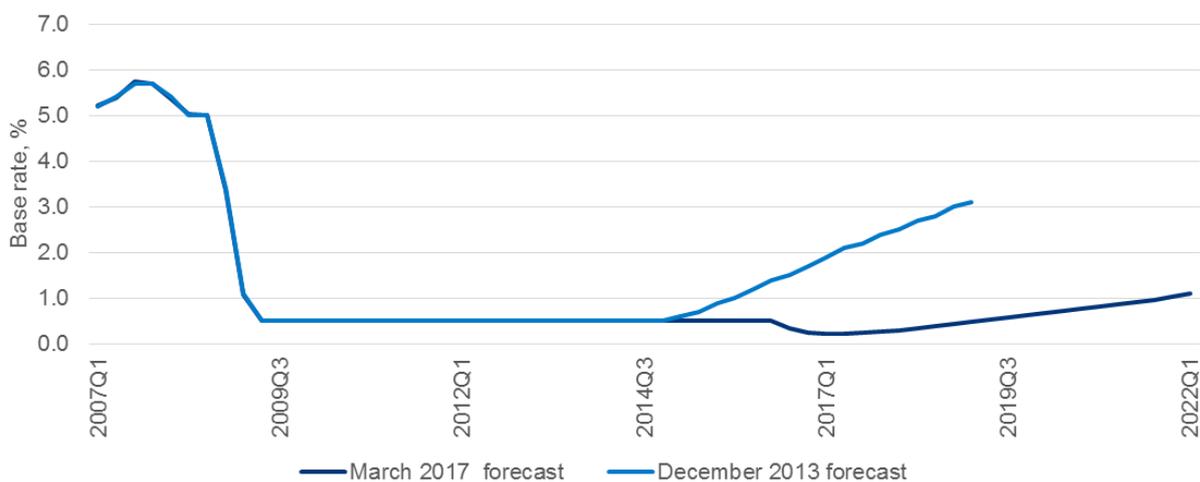
We have also considered a range of other evidence on the global economic outlook, for example:

- A recent report by the McKinsey Global Institute² suggested that a range of forces was likely to lower investors' returns in the next 20 years compared to those achieved in the past; and
- The IMF's most recent global economic outlook³, while optimistic about the improving picture, cautioned that there are 'structural impediments continue to hold back a stronger recovery, and the balance of risks remains tilted to the downside, especially over the medium term'. It further notes that 'persistent structural problems—such as low productivity growth and high income inequality - pressures for inward-looking policies are increasing in advanced economies'. In the UK context these issues do not seem to support a return towards historical interest rates over the medium term.

The above discussion suggests there are compelling reasons why the interest rate environment is expected to remain low by historical standards through 2020-25.

Figure 1 compares the UK's Office of Budget Responsibility's forecast of UK base rates from December 2013 (PR14 final determinations) with March 2017. It shows market expectations of base rates are that they will remain below 1 percent (nominal) well into the 2020-25 price control period.

Figure 1 OBR forecast of UK base rates



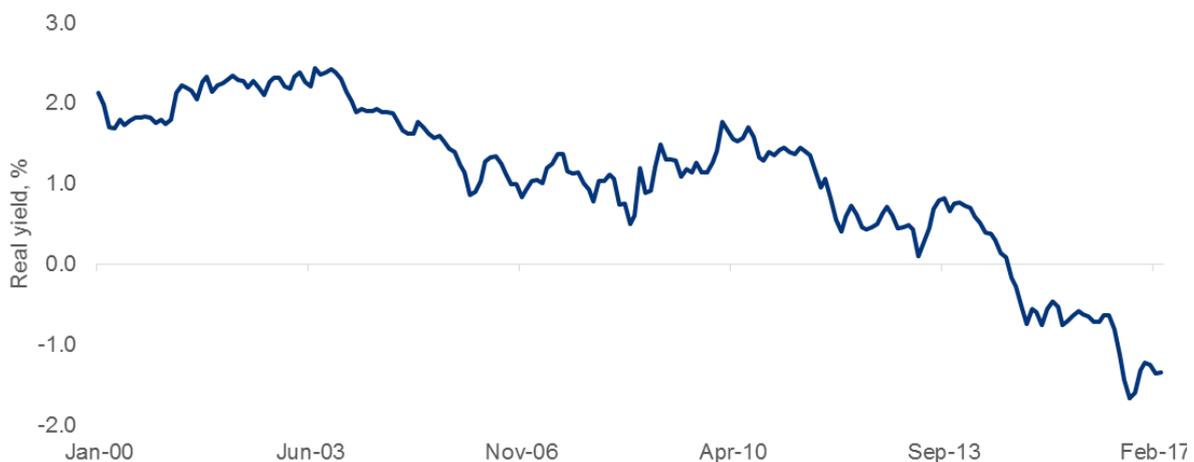
² McKinsey Global Institute, "Diminishing returns: Why investors may need to lower their expectations" May 2016

³ International Monetary Fund, "World economic outlook, April 2017: gaining momentum?" April 2017

Source: PwC & Ofwat analysis of Office of Budget Responsibility data

Similarly, expectations of yields on government bonds, which is closely linked to interest rates, are significantly lower compared with expectations when we last made price determinations. Figure 2 shows the 10-year forward rates on 10-year government bonds⁴. These rates have fallen markedly since PR14 final determinations and real (RPI based) yields are expected to continue to be negative through the next price control period.

Figure 2 10-year forward rates on 10-year government bonds



Source: Ofwat analysis of Bank of England data (IUMAMRIF)

We consider that the evidence points to a macroeconomic backdrop which is significantly different from PR14 and previous price controls. In our previous price determinations, even if interest rates were low, they were expected to rebound. The market data for 2020-25 suggests this is not the case.

3.3 Evidence relevant to the cost of equity for 2020-25

In this section we set out further evidence relevant to setting the cost of equity for 2020-25:

- the impact of low interest rates on equity returns;

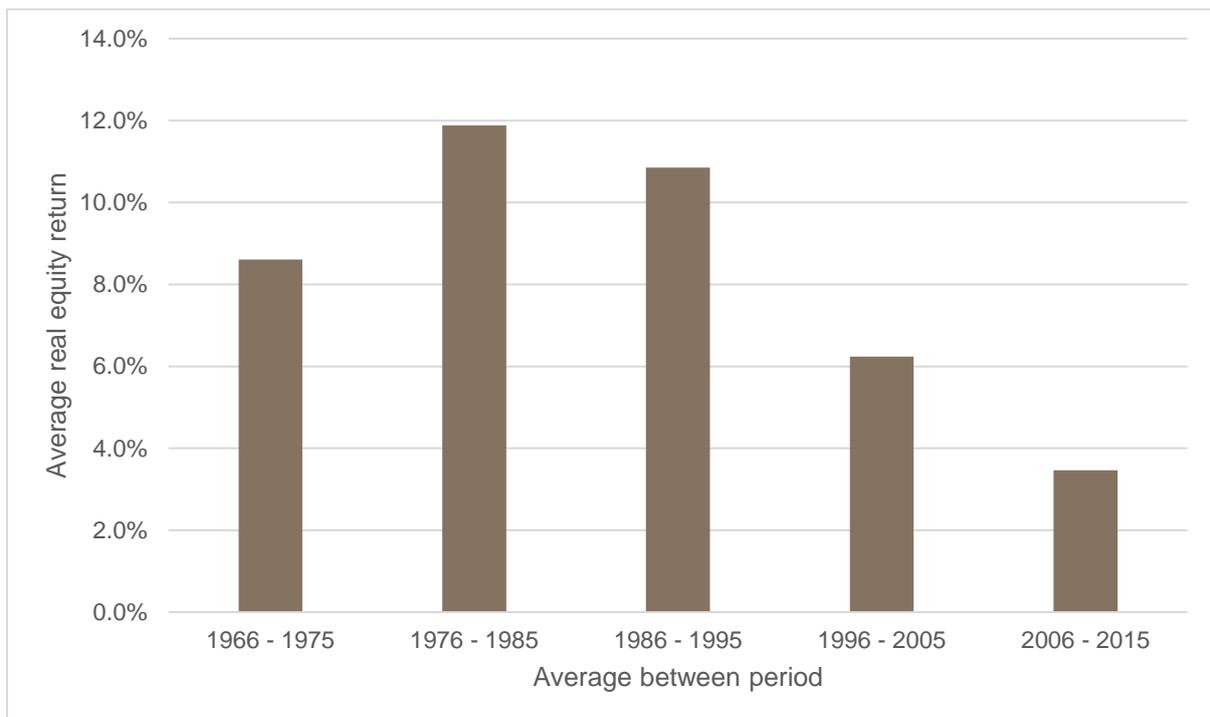
⁴ Where the February 2017 data point corresponds with what investors expect to receive on a 10-year gilt issue in February 2027.

- past regulatory decisions;
- transaction and trading data;
- current evidence on the risk free rate; and
- our current views on the cost of equity for PR19.

3.3.1 Impact of interest rates on equity returns

Market evidence highlights the impact of low interest rates on equity returns. Figure 3 shows that recent equity returns have been significantly below previous trends and longer-run historical averages.

Figure 3 UK equity returns



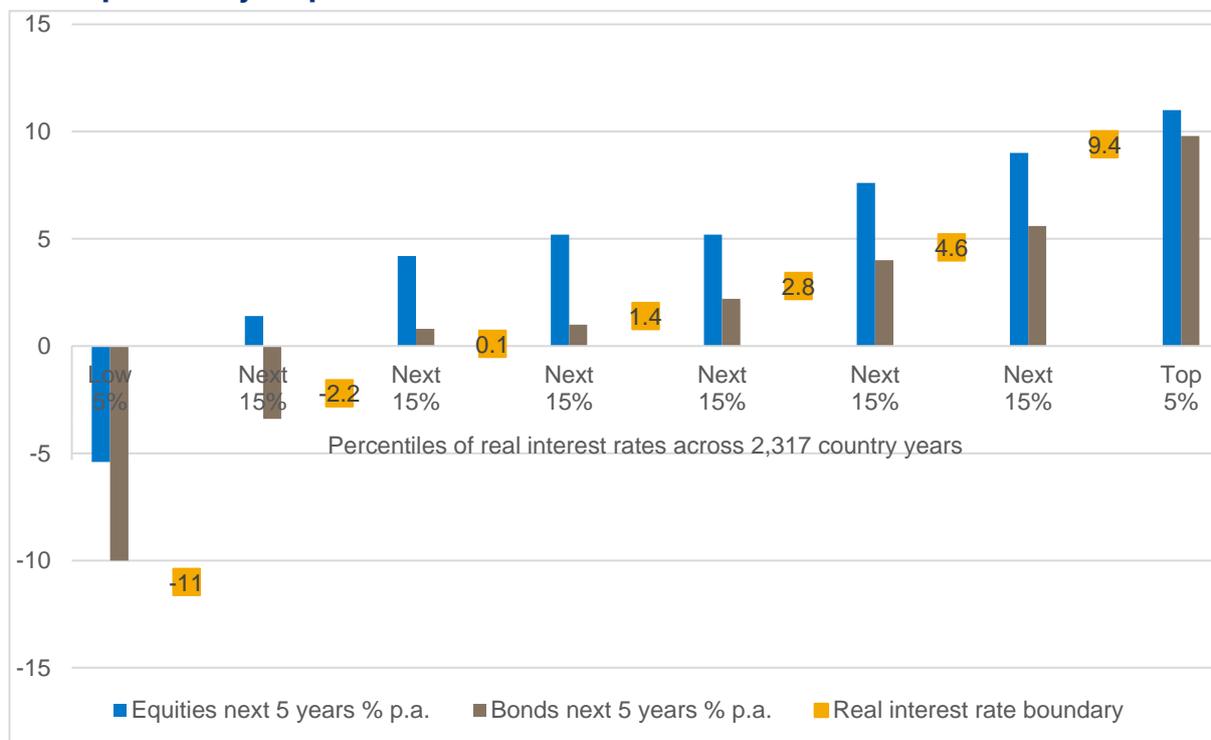
Source: PwC analysis of Barclays Equity Gilt Study (2016) data

Evidence from the recent Credit Suisse Yearbook points to expectations that future equity returns will be lower than the historical average. The Credit Suisse Yearbook states, for example, 'since real interest rates remain at low levels, this is likely to depress returns on all asset classes – including equities. Given that equity investors made a 4.2 percentage point higher return than money market investors in the 1900-

2016 period, the authors predict an additional return of just 3 to 3.5 percent in the years ahead⁵.

Credit Suisse also show that the real interest rate in any given year impacts equity returns over the next five years. This is shown in figure 4. For example, in the five years following the years with the lowest 5% of observed real interest rates in the dataset, the return was about -5% for equities, and -10% for bonds. This analysis supports the view that current low real interest rates will continue to drive lower equity and bond returns over the 2020-25 price control period than have been seen over the longer term. The Economist newspaper reached similar conclusions using the same Barclays Equity Gilt Study data cited in figure 3⁶.

Figure 4 Relationship between real interest rates and asset returns over the subsequent five year period



Source: Credit Suisse, 'Global investment returns yearbook 2017 – slide summary deck', slide 11

⁵ Credit Suisse, 'Low interest rates hit returns on equities', April 2017

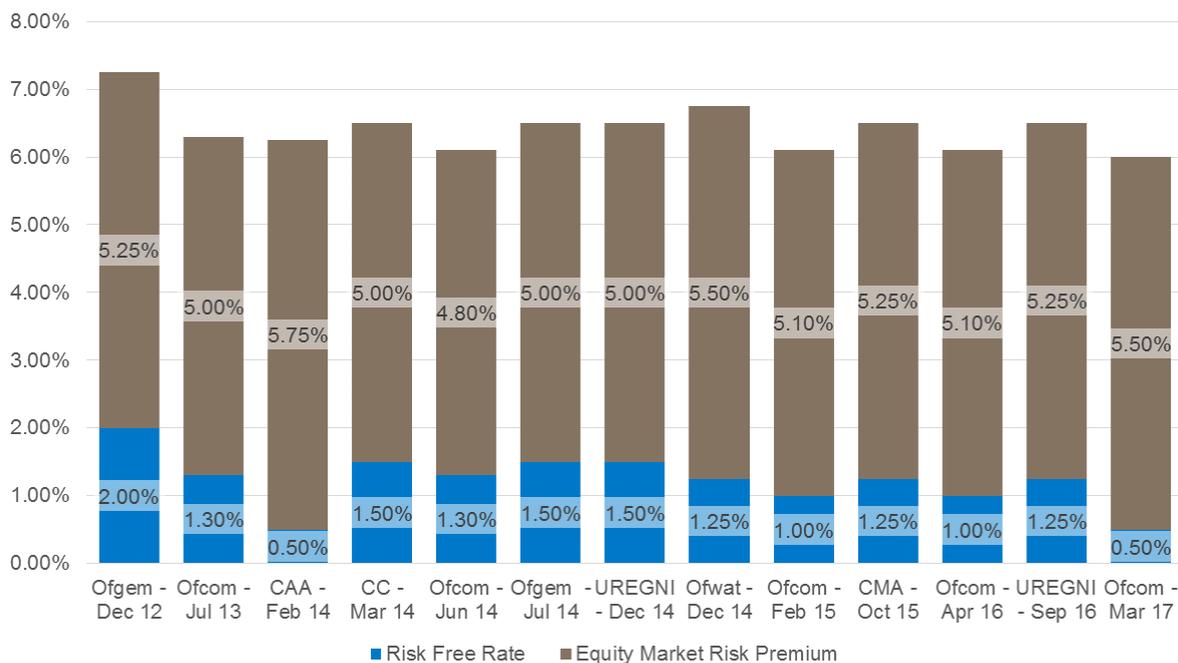
⁶ The Economist, 'Interest rates and investment returns', March 2017

3.3.2 Recent regulatory precedent

Assessing the cost of equity in a period where returns are expected to remain low (by historical standards) creates particular challenges for setting the cost of equity. Traditionally, regulators have assessed the cost of equity by reviewing long-term historic datasets, such as the Dimson Marsh and Staunton database used by the Credit Suisse Global Investment Returns Yearbook⁷, and forward looking evidence; giving more weight to historical evidence. As indicated in figure 5, the equity risk premium that has underpinned recent regulatory decisions in the UK has been relatively stable within a range 5 to 5.75%. Total market return has been relatively stable within a range of 6.25% to 6.75%. We note the most recent Ofcom consultation proposes a lower total market return of 6.0%⁸.

Differences in the regulatory decisions have therefore been driven largely by the view taken by the regulator of the applicable risk free rate.

Figure 5 Regulator’s recent decisions on TMR and RFR



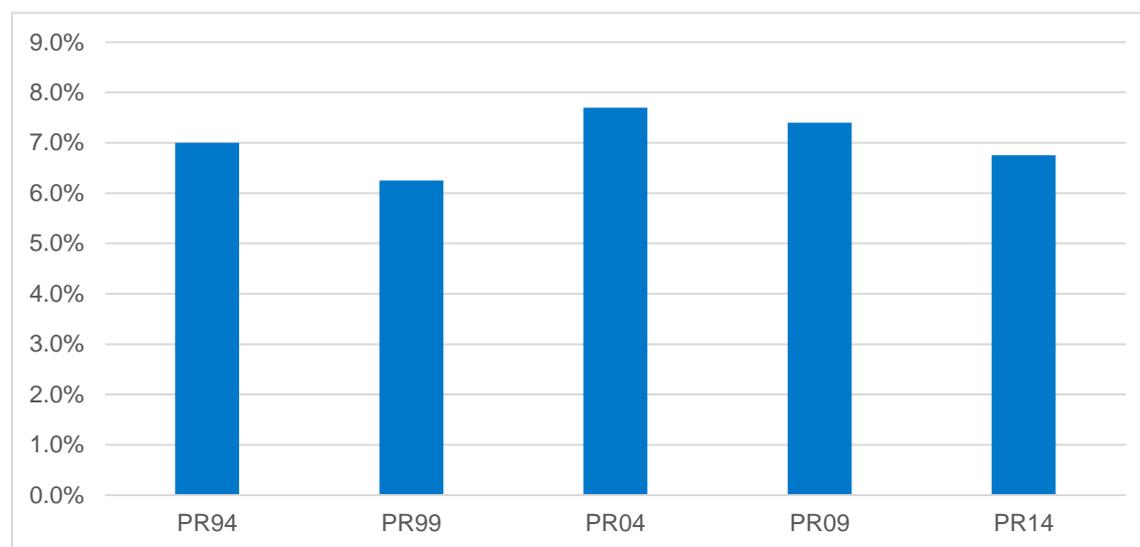
Source: Ofwat Analysis; UK Regulators Network Cost of Capital Annual Update Report 2017

⁷ Credit Suisse, 'Credit Suisse Global Investment Returns Yearbook 2017', February 2017

⁸ Ofcom, 'Wholesale local access market review – annexes', March 2017

The relative stability of the total market returns from recent decisions may be largely explained by regulators relying primarily on the same historical data. Over time, there has been more variation in the allowed total market returns. Figure 6 sets out the total market returns implied by our price determinations since the 1994 price review (PR94).

Figure 6 Ofwat decisions on TMR since PR94



Source: Ofwat analysis

Our previous determinations have tended to focus on historical estimates of the total market return or equity market risk premium, but also moved with current market conditions, to some extent. This explains the changes between allowances at different price reviews, as well as movement within historical datasets updated by recent market data.

The risk free rate we have allowed has tended to move more in line with market conditions. However, this has still been largely based on recent historical estimates (for example, over the previous ten years as at the PR14 final determinations). Therefore, while our approach has taken into account current market conditions, the main determinant has been long-run historical data.

Box 1 Forward and backwards looking observations of TMR

In past decisions on the cost of equity, regulators and the CMA have tended to place greatest weight on long-run historical datasets. The current market context raises a question about the weight we should give to long-run historic data.

Approach	Description	Comments
Backwards looking – historical data	<p>Use long-run historical data on equity market returns. For example, the data compiled by Credit Suisse/Dimson, Marsh and Staunton on global equity returns since 1900.</p> <p>The risk free rate can be estimated either from the same data or by using other historical data on UK Gilt yields (eg from Bank of England data series')</p>	<p>Relatively simple approach – albeit with alternative data sources.</p> <p>Long run data is relatively easy to derive with few assumptions.</p> <p>May not adequately capture current markets or future expectations.</p> <p>May result in less movement of bills between price control periods (all else being equal).</p> <p>May lead to overstatement of allowed returns if regulators only adjust above but never below long run evidence</p> <p>May undermine perceived legitimacy of controls if investors earn excess returns due to factors beyond their control</p>
Forwards looking – based on current markets and forecasts	<p>Use of market transaction data, evidence from academic studies and calculation techniques such as the Dividend Growth Model to calculate expected market returns.</p> <p>The risk free rate can be estimated either from current UK Gilt rates, or forward UK Gilt rates, to determine the risk free rate.</p>	<p>Allows equity returns to be matched with current markets, and customers' bills reflect this.</p> <p>Modelling may be susceptible to underlying assumptions (though sensitivities could help address this).</p> <p>Potential to lead to greater bill movement between price control periods, although we note Ofwat's view of total market return has varied significantly over control periods.</p>

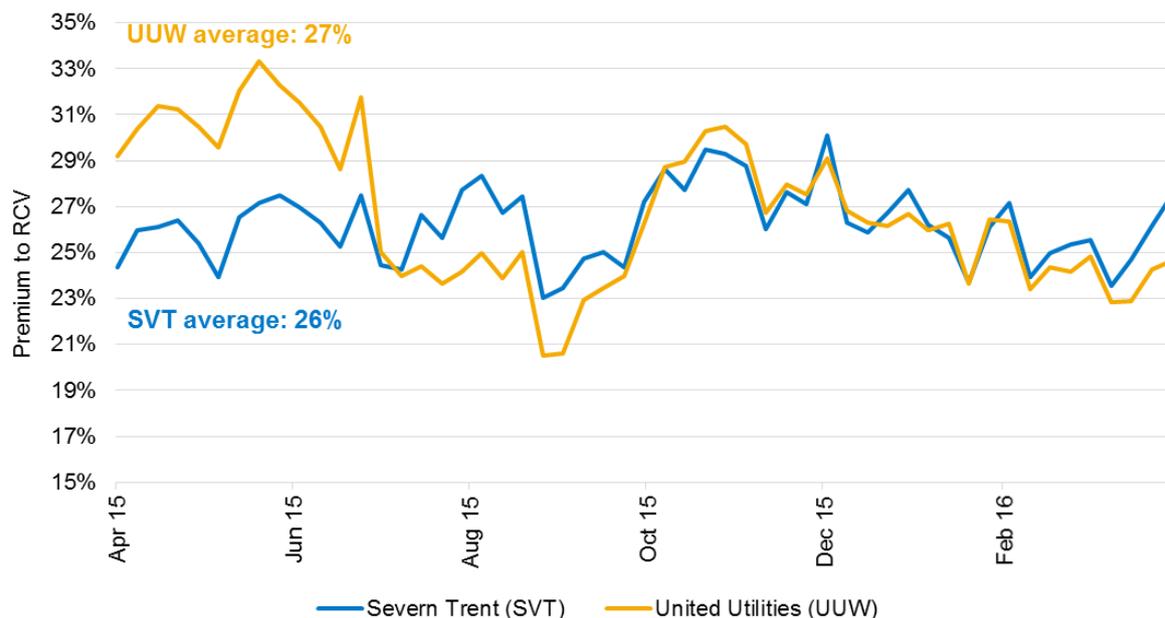
3.3.3 Transaction and trading data

Market expectations about equity returns can be drawn from market to asset valuations from company equity transactions. We have seen significant premia in recent private transactions (market to asset valuation estimates have exceeded

1.5x). In some cases these premia will be influenced by, for example, a premium paid for control.

Evidence from the listed companies we regulate (figure 7) also provides a useful insight. Evidence from analyst reports suggests trading premia are not explained by outperformance alone, and are consistent with lower expected returns on the cost of equity. We consider that outperformance could result from both companies being allowed a cost of equity higher than investors require, and companies significantly outperforming in other areas (for example, against incentives).

Figure 7 Listed companies share prices as a premium to RCV



Source: PwC analysis

We asked PwC to analyse the current premiums for listed companies, taking into account expectations of outperformance against regulatory allowances. PwC calculated that this implied a nominal TMR in the range of 7.6% to 8.1% (or 4.7% to 5.2% in real RPI terms, assuming PR14 RPI inflation of 2.8%).

3.3.4 Current evidence on the risk free rate

We have also considered the implication of the current market trends on the potential risk free rate for PR19. The PR14 risk free rate, used in the final determinations, of 1.25% was based on the yield from UK government index-linked gilts with 10 year

maturities. This is considerably higher than the 10-year average of index linked gilts (April 2017), which was around -2%.

The evidence we present in figure 2 implies a real risk free rate that should be negative over the entire 2020-25 price control period. We also consider the recent decision by the Ministry of Justice to use a risk free rate of -0.75% for insurance claims (from March 2017) as evidence of current low gilt rates impacting risk free rates⁹. We therefore consider that current evidence suggests that the risk free rate for PR19 should be considerably lower than the risk free rate we set at PR14, reflecting current market conditions.

3.3.5 Changes over time in the equity risk premium

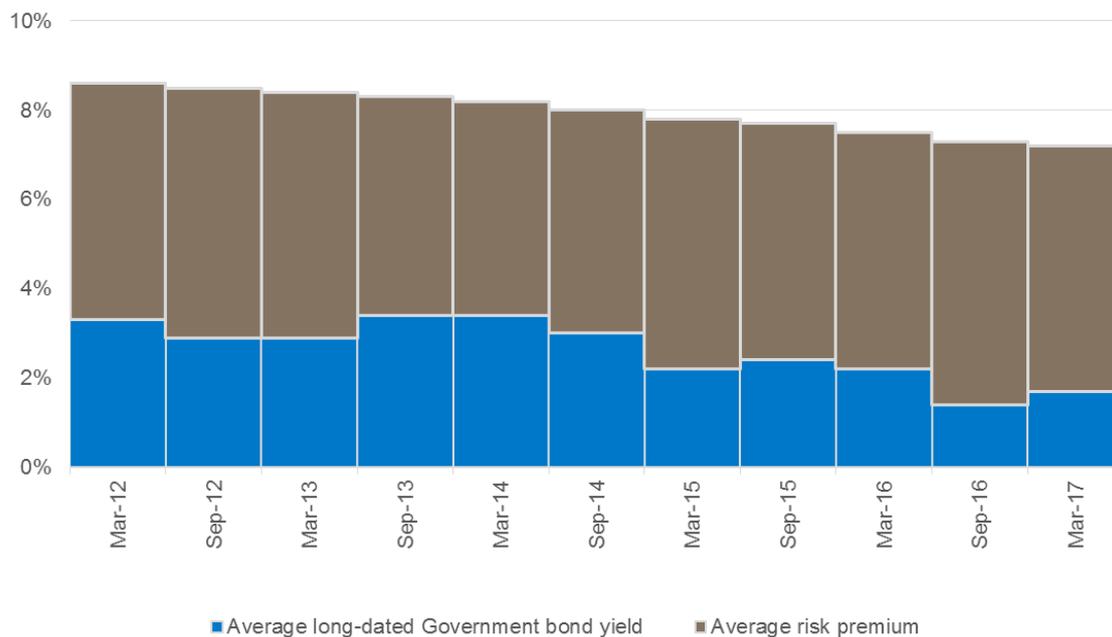
We asked PwC to investigate the relationship between the equity risk premium and total market returns. They found that reductions in the risk-free rate are not perfectly offset by increases in the equity risk premium (and therefore the TMR is not constant). Therefore, while a reduction in the risk free rate leads to some increase in equity risk premium, but the increase in the equity risk premium is not as great as the reduction in risk free rate. This is consistent with the data we present above from Barclays and Credit Suisse, but contradicts the view put forward by Smithers and Co¹⁰ that there is a direct relationship between the risk free rate and the equity risk premium, such that the total market return is fairly consistent over time.

This view is also shared by some investors. For example, figure 8 presents data from HICL Infrastructure Company (HICL) showing the discount rates it has used for UK infrastructure assets since March 2012. This shows changes in the equity risk premium and risk free rate over time, with a general trend of a falling total market return. It suggests changes in the risk free rate are, to a limited extent, offset by changes in the equity risk premium, but not fully.

⁹ Ministry of Justice, '[New discount rate for personal injury claims announced](#)', 27 February 2017

¹⁰ Steven Wright and Andrew Smithers, '[The Cost of Equity Capital for Regulated Companies: A Review for Ofgem](#)', February 2014

Figure 8 HICL UK infrastructure discount rate March 2012 to March 2017



Source: Ofwat, analysis of HICL data

3.3.6 Our current views on the cost of equity for PR19

Our analysis highlights the importance of accounting for the current market environment in setting the cost of equity. Relying too heavily on historical long term rates is likely to overstate required returns, both as analysis suggests that historical data overstates expected future long run returns and because evidence that the required returns in the period to 2025 are lower. As the cost of capital is an important component of customer bills, this could lead customers to overpay for water and wastewater services and undermine the perceived legitimacy of the sector.

It could be argued that sticking to a long run approach would lead to more stable bills in the very long run, but we note within this context, the 2009 price review (PR09) cost of equity, set towards the top of our stated range, reflected a cautious approach driven by uncertainty about the outcome of macro-economic policies related to the credit crunch. Looking further back, Ofwat has adjusted its view of total market returns at each review, so it is not obvious that putting more weight on current market evidence would lead to less stable bills over time.

The evidence on the wider economic backdrop combined with the market data, points to a materially lower cost of equity for the 2020-2025 period, derived on the basis of market evidence. Our ongoing work in this area will continue to consider the

merits of setting a cost of equity that takes account of the economic environment, current market data and expected returns to 2025, rather than primarily focus on the long term historical equity returns that have underpinned past regulatory determinations.

3.4 Company specific adjustments to the cost of equity

As set out in the risk and return chapter, we do not consider there is any evidence that company size affects the cost of equity. Evidence that investors in small companies (outwith the water sector) historically require higher returns, is limited. We specifically note several of the findings of Aswath Damodaran, who questions the general approach of applying a premium to investments in small cap companies¹¹ as follows:

- small cap premiums tend to be justified on the basis of historical data. However, historical estimates of small company (or small cap) premiums suffer from high standard errors, and the data is not robust; and
- to justify a small company premium, there has to be evidence that small companies are subject to a different risk profile. But as Damodaran states, “risk ultimately has to come from something fundamental (and size is not a fundamental factor)”.

For water companies, there is no clear justification that small companies face higher risks than larger water and wastewater companies (WaSCs), as the regulatory framework is essentially the same. This is different from small companies in competitive markets, which do face different pressures around market share and growth expectations, a point also noted by Damodaran.

We also do not consider that there is a robust argument for saying that smaller WoCs have higher asset betas as a result of having higher operational leverage. We understand that this argument assumes a high ratio of operational cash flow to revenue results in higher systematic risk, and therefore a higher asset beta and cost of equity. We have rejected such arguments at previous price controls. For example, PwC’s analysis at PR14 could not establish a conceptual basis for greater exposure

¹¹ Aswath Damodaran, ‘[Equity risk premiums \(ERP\): determinants, estimation and implications – the 2016 edition](#)’, March 2016

to systematic risk as a result of a high ratio of operational cash flows to revenue. We note also that totex outperformance drives greater returns (measured in RoRE terms) for companies with higher operational leverage.

Moreover, we consider that the specific approach taken by the CC in 2010 and CMA in 2015 for Bristol Water, is not suitable for analysing differences in systematic risk between companies¹². We specifically note the wide variation in company uplifts implied by this approach – up to 4.25% higher for one company than our notional allowance.

¹² Ofwat, 'Ofwat's response to Bristol Water's price determination statement of case dated 11 March 2015'

4 Our approach to the cost of debt

4.1 What issue are we seeking to address?

It is difficult for both Ofwat and companies to accurately forecast future borrowing costs. In previous price controls this led to allowances not being aligned with prevailing market conditions and companies' actual borrowing costs over the price control period. This had led to decreasing legitimacy of our approach of setting fixed allowances. We note specifically the National Audit Office's views about the potential positive customer impact through a debt indexation model, like that used by Ofgem.

In light of this we consulted on our possible approach in [September 2016](#). Taking account of responses to this consultation (the summary of these is at the back of this appendix) we continue to propose to index the cost of new debt.

We set out below further details of:

- Our rationale for indexing the cost of new debt only, including appraising the options we set out in our consultation; and
- The options we have considered for the mechanics of the indexation mechanism and our preferred approach.

4.2 Options to index the cost of new debt

In our consultation we considered three options for setting debt allowances at PR19 – these were:

Option 1: Do nothing

Set fixed allowances for both new and embedded debt costs. This is the approach we have taken at all previous price reviews.

Option 2: Index the cost of new debt only

We would continue to set fixed allowances for embedded debt costs. We would do this by looking at companies' actual borrowing costs as well as market benchmarks. For embedded debt this would be the same as the approach we have taken at previous price reviews.

For new debt we would set an upfront allowance based on prevailing market conditions, then we would true up companies' allowances based on changes in a market benchmark over each year of the price control period. This would mean that customers only pay the market rate for new debt, not our forecast.

Option 3: Index the cost of all debt

We would set all debt allowances (new and embedded) by reference to a market benchmark. We would set an upfront allowance for the cost of debt, then adjust this for each year of the price control period to reflect movement in the market benchmark. Ofgem introduced a similar mechanism for price controls in 2013.

4.3 Our proposal

In response to our consultation, most respondents either supported our proposed approach, or gave conditional support subject to a more detailed understanding of how the indexation mechanism would work in practice.

Taking account of the responses to our consultation, we set out the rationale for our proposal to index the cost of new debt only in Table 1. We consider that our approach strikes a balance between protecting consumers and incentivising companies. It means customers no longer bear the cost of a forecast risk premium in the cost of capital which is associated with fact that we cannot accurately forecast the cost of new debt.

Table 1 Indexing the cost of debt

	Option 1 Fix all allowances (current approach)	Option 2 Index the cost of new debt only Proposal for PR19	Option 3 Index the cost of all debt
Achieving our objectives	May include premiums for forecast error of new debt – neither we nor companies can accurately forecast future borrowing costs. x	Fixed allowances for efficient embedded debt costs appraised against market benchmarks; new debt costs linked to an efficient market benchmark. ✓✓	All debt cost allowances linked to an efficient market benchmark cost. No appraisal of actual company costs relative to the industry average. ✓
How our objectives	Inflexible to market movements, customers	Flexible to changing markets - cost of new debt	Limited regulatory intervention, but may be

	Option 1 Fix all allowances (current approach)	Option 2 Index the cost of new debt only Proposal for PR19	Option 3 Index the cost of all debt
are achieved	pay a premium for companies to bear forecast error risk. Companies incentivised to beat our allowances but customers only benefit at next price review through embedded debt allowances. x	reflects market movements. Forecast error risk is not passed to customers. We continue to set embedded debt cost allowances and take into account historical debt costs or outperformance against benchmarks. ✓✓✓	inflexible to changes once implemented – eg to a change in the benchmark index. Customers do not bear cost of forecast error risk. Risk that company outperformance against benchmark cannot be passed back to customers (ie at next price review). ✓
Practicality	No change to the resource required to set cost of debt allowances. No further updates once the allowance is set. ✓✓✓	Ongoing requirement to track the mechanism. Potentially some ongoing costs to access data. ✓✓	Ongoing resource required to track the mechanism. Potentially some ongoing costs to access data. ✓✓

4.4 How our proposed approach will work in practice

Our consultation intentionally focused on the principles behind our approach to the cost of debt for PR19, not the details. One of the themes to emerge from consultation responses was that stakeholders want to see further details on how our proposals would work. We have subsequently held a workshop with stakeholders at which we discussed some of these practicalities further. We appreciate stakeholders' ongoing input to our policy development. In this section we provide further details on how we propose indexing the cost of new debt would work. We have also published a [spreadsheet](#) alongside this consultation to illustrate this in further detail.

4.5 New debt indexation mechanism

At our workshop in January we discussed four potential options with stakeholders for how indexing the cost of new debt could work¹³.

At PR19 we expect to continue to assume a proportion of debt remains embedded in the notional balance sheet through 2020-25 and a proportion is new debt, based on requirements to fund RCV growth and refinance existing debt that matures. At PR14 the ratio of new to embedded debt was 1:3 (ie. 25% of all debt allowances are for new debt). We will consider further, in determining our view of the cost of capital, what the proportion of embedded to new debt should be for the notional financial structure. In considering further the options around new debt indexation, we have assumed the same new to embedded debt ratio as at PR14. For the notional financial structure we consider therefore, that the proportion of new debt would not be 25% for each year of the price control. It would be 25% on average, over the period. This means we would expect new debt to be less than 25% of a company's debt liabilities in the first year, and more than 25% in the final year. It is in this context that we have considered possible mechanisms to index the cost of new debt.

Feedback from workshop attendees highlighted that the two most practical options would be¹⁴ as follows.

- Option 1: A very simple approach that assumes 25% of debt for each year is new and 75% embedded. The new debt allowance for each year would be based on the previous year's market benchmark index. We note this mechanism would not match exactly the new debt issued by a company with a notional balance sheet, but the mechanism would be simple and transparent.
- Option 2: An approach which increases the proportion of new debt over each year of the price control period (averaging 25% new debt over the period). For each year the new debt allowance would be set by reference to an extending trailing average of the observations from the market benchmark index. This approach would better match the debt issuance costs and profile for a notional financial structure as it would assume debt is raised evenly through the period of the control.

¹³ Ofwat, '[Cost of debt workshop Water 2020: risk and return](#)', 20 January 2017

¹⁴ A further discussion of the options we have considered can be found in the [cost of debt workshop materials](#).

Following our workshop and feedback from companies, we propose to use option 2 for the cost of new debt indexation mechanism. We have published an illustrative spreadsheet alongside this consultation which sets out how the mechanism would operate.

We will consider further, as part of our work on the cost of capital later this year, how we would set upfront allowances for the cost of new debt. We initially consider that it may be appropriate to use a simple average of borrowing costs, as implied by the chosen market benchmark, in the year before final determinations. However, we may adjust this observation if there is evidence of company outperformance against this index, or, for example, for issuance costs.

4.6 Which market benchmark to use

To index the cost of new debt we need to identify an appropriate market benchmark that represents an efficient index for the notional company. We discussed some of the potential options at our workshop in January¹⁵. Feedback from the workshop was strongly in favour of using an index composed from the iBoxx¹⁶ non-financial companies index for both A and BBB credit ratings. This is the same index that we and other regulators, including the CMA, have used in setting debt allowances at previous price reviews. It is also the same index that Ofgem uses for its cost of debt indexation mechanisms. It is therefore widely adopted and well understood.

We prefer using the iBoxx non-financials index for our new debt indexation mechanism. We consider the above points on legitimacy are important. However, we also note that:

- the average tenor of debt in the iBoxx non-financials for A and BBB credit ratings is 21 years¹⁷. This is broadly consistent with the tenor of around 18 years for the sector. Tenor is one of the key determinants of the spread of corporate debt over gilts;

¹⁵ A further discussion of the merits of the iBoxx index compared with other available indices is set out in the materials from our January [cost of debt workshop](#).

¹⁶ The iBoxx indices are published by [Markit](#). The iBoxx bond indices are used to measure the value of different sections of the bond market, subdivided by credit rating. The non-financial index tracks the bond prices of a portfolio of bonds issued by investment grade, non-financial securities.

¹⁷ [Markit](#), [Data from IHS Markit](#) (accessed 05 June 2017). Average of A and BBB rated iBoxx indices for non-financial corporates with 10+ years to maturity.

- a mix of A and BBB credit ratings aligns with an efficient benchmark of a notional company;
- water companies are represented in the iBoxx, but only account for c.14% of the weighting of the index. This means that the index is a relatively external benchmark, rather than something that could be heavily influenced by companies' actions, such as the utilities iBoxx dataset (which would make it less of an external measure); and
- iBoxx data is readily available to a range of stakeholders. We consider this transparency is important to ensure stakeholders are able to track movements and understand the impact on company allowances, and therefore, customers.

As set out in the risk and return chapter, we propose to retain the option to allow for ex-ante adjustments to this benchmark if evidence persists that efficient companies can outperform the market cost of debt. Our final decision for any such adjustment would be set in the final determination and fixed for the 2020-25 period.

4.7 Taking inflation into account

The iBoxx non-financial companies indices we propose to use tracks the changes in prices of debt in nominal, not real terms. However, we will set companies' allowances in real-RPI and real-CPIH terms. We need to consider the treatment of inflation within the indexation mechanism.

In our consultation on the cost of debt, we considered the possibility of adjusting for changes in inflation each year in the price control period (ie. the real allowance for year 1 is set as the nominal benchmark for year 1, less actual inflation for year 1). This would have the effect of correcting for potential company outperformance as a result on inflation, given that companies issue a mix of nominal, index linked and floating debt.

Through the price control, we use long-term inflation assumptions to set real allowances. Some respondents to our consultation noted that our approach of adjusting for short term inflation would be inconsistent with the long-term inflation that underpins the cost of capital. However some of these respondents also supported a policy of adjusting for long term inflation to set allowances in real terms consistent with the approach taken by Ofgem. Ofgem deflates a nominal debt index by long term RPI, implied by UK gilts. We discussed our approach to inflation further with stakeholders at our January workshop.

We have taken account of the responses we received to the consultation in assessing our proposals for the cost of debt. We consider the use of long-term

inflation assumptions are most appropriate as they match the inflation assumptions priced into long-term debt instruments:

- We use a medium to long term view of inflation when setting the cost of capital; which would be inconsistent with an approach which focusses on short term inflation;
- While inflation can be volatile in the short-term, inflation is more stable over the long-term. These expectations are priced into nominal bond yields, so the market index will also reflect long-term inflation expectations; and
- Companies currently manage the risk around inflation, so adopting a short-term approach might distort investor choice between index linked and nominal debt. It would introduce an inconsistency with the approach to embedded debt where we would take account of medium to long term inflation and so may lead to inefficient behaviour.

An alternative approach, discussed with stakeholders at our cost of debt workshop in January, which is aligned to a transition of the indexation of price controls, is to consider a fixed, medium to long term, inflation adjustment to the market benchmark. A fixed inflation adjustment would be set by reference to the medium to long term inflation expectation of the applicable inflation index. We find that CPIH closely tracks CPI, the Bank of England inflation target, where forecasts assume that monetary policy returns inflation to target over the medium to long-term.

As the inflation adjustment would be fixed at the time of the price determination, in practice, we would only need to track changes to the nominal benchmark index for purposes of making reconciliation adjustments for the cost of new debt. This approach has merits in terms of transparency and simplicity and so it our proposed approach. Our spreadsheet, which illustrates the cost of the debt indexation mechanism, outlines how this would work.

4.8 Timing of adjustments following true-up

Our consultation outlined our preference to make adjustments for changes in new debt allowances at the **end** of the price control period. We note that while the majority of consultation respondents were in favour of end-of-period adjustments, a small minority preferred in-period adjustments or the flexibility to choose either approach.

We have considered in-period adjustments further, including at our workshop in January. We continue to prefer end-of-period adjustments to maintain bill stability.

End of period adjustments allow for positive and negative adjustments to be netted against one another and are simple to implement.

We acknowledge our preference for end-of-period adjustments is different to the preferred approach for ODIs. However, ODI adjustments relate to performance that is predominantly within management control. Therefore, bringing rewards and penalties closer in time to the performance that generated them, sharpens the incentives on management. This benefit does not apply to in-period debt adjustments as movement in financial markets (that affect borrowing costs) are not within companies' control.

5 Our proposal to index price controls to CPIH

5.1 What issue are we seeking to address

In May 2016, we decided to move away from indexing price control to the retail prices index (RPI) towards a more legitimate inflation measurement. We said that revenues would be linked to either the consumer prices index (CPI), or, the consumer prices index including housing costs (CPIH), and that we would transition indexation of the RCV accordingly. We committed to confirm our decision on the applicable index (CPI or CPIH) by January 2018.

5.2 What options have been considered?

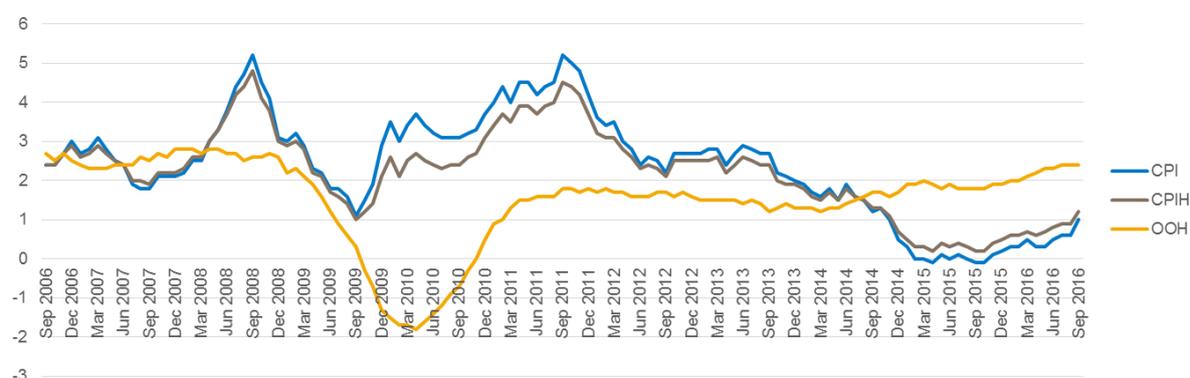
In May 2016, we outlined our intention to index price controls to either CPI or CPIH. Table 2 summarises each index.

Table 2 CPI and CPIH

CPI - Consumer Prices Index	CPIH – Consumer Prices Index including housing costs
<p>Introduced in the UK in 1996. Based on a European standard. Measures the change in prices of a basket of goods and services, in line with a defined formula. Formula is different from RPI and is seen by economists to more accurately capture price changes. Replaced RPI as the main measurement of changes in prices in 2003 Current government inflation target for the Bank of England to work towards, is expressed in CPI terms.</p>	<p>Introduced in the UK in 2013. Essentially the same as CPI, but includes a measurement of owner occupiers' housing costs (about a quarter of the weighting of the index). Since March 2017, the ONS use CPIH as the headline measure of inflation, though the UK Statistics Authority (UKSA) has yet to re-designate CPIH as a national statistic. National statistic status was removed in 2014 due to UKSA concerns over the way housing costs were calculated.</p>

As CPI and CPIH share the same basic formula, the two indices have, over time, closely tracked each other. Figure 9 shows the differences between CPI and CPIH, as well as the ONS' measurement of changes in owner occupiers housing costs (OOH). This is the component of CPIH that makes it different from CPI.

Figure 9 Changes in CPI, CPIH and OOH (Owner Occupiers Housing costs) since 2006



Source: Office of National Statistics, UK consumer price inflation: Sept 2016

Since 2006 the average difference between the two indices (or wedge) has been 0.1%. Table 3 outlines in further detail, the weighting of different components within CPI and CPIH. As noted above, housing costs account for about a quarter of CPIH. In all other respects the weightings of the two indices are almost exactly the same, and they use the same formulae and data.

Table 3 CPI and CPIH weightings

Sector	CPI weighting	CPI excluding housing	CPIH weighting	CPIH excluding housing
Food and non-alcoholic beverages	103	117	81	115
Alcoholic beverages and tobacco	43	49	34	48
Clothing and footwear	72	82	58	82
Housing, water, electricity, gas and other fuels	118	N/A	294	N/A
Furniture, household equipment and maintenance	61	69	49	69
Health	26	29	21	30
Transport	160	181	126	178
Communication	25	28	21	30
Recreation and culture	148	168	121	171
Education	22	25	17	24
Restaurants and hotels	126	143	101	143
Miscellaneous goods and services	96	109	77	109
Total	1000	1000	1000	1000

Source: Office for National Statistics, 'W1 to W3 tables – annex A', 20 March 2017

5.3 Our appraisal of the options

Our move away from RPI was primarily due to the lack of legitimacy for customers in the way that RPI is calculated. We have therefore considered further, the legitimacy of both CPI and CPIH in table 4.

Table 4 Legitimacy of CPI and CPIH

	CPI	CPIH
Customers	Does not include a measure of housing costs, which represents a significant outgoing for many households.	Includes housing costs based on rental equivalence; recommended by the Johnson review as the measure of price inflation across the UK economy (subject to issues to be addressed with calculation of rental equivalence).
Official statistics	National Statistic certified by the UK Statistics Authority (UKSA). But since March 2017, no longer the ONS preferred (or headline) inflation measure. UK version of EU standard for inflation.	Not currently a national statistic. UKSA removed status in 2014 due to formula concerns on calculation of housing costs. The ONS now considers these issues to be resolved and has made CPIH its primary focus and the preferred inflation measurement in its inflation reports. The UKSA has committed to review the evidence provided by the ONS. Introduced by the ONS specifically to address 'several flaws and limitations present in alternative measures' ¹⁸
Government	HMT's inflation target for the Bank of England is CPI. Since 2011, CPI has been used as the principal deflator of consumer spending within the National Accounts and to index tax credits and public service pensions. It was announced in the 2016 Budget ¹⁹ that business rates will be linked to CPI from 2020.	No specific Government use of CPIH at present, though this may be due to the ongoing lack of official status.

¹⁸ Office for National Statistics, '[Statement on future of consumer price inflation statistics in the UK](#)', 10 November 2016

¹⁹ HM Treasury, '[Budget 2016: George Osborne's speech](#)', 16 March 2016

	CPI	CPIH
Other UK regulators	Ofcom states its price controls on the basis of CPI and in energy, CfDs (subsidies) are CPI linked. Other regulators are considering moving to CPI (eg CAA). Ofgem decided not to move to OFTOs and Interconnectors.	No discussion on the merits of CPI or CPIH; no current statement that other regulators plan to move towards CPIH.

On balance we propose to transition to CPIH. We consider that it has greater customer legitimacy than CPI, given the ONS' decision to both develop CPIH to address perceived flaws in other indices, and to make CPIH the headline measure of inflation. This reflects its view that CPIH is the most comprehensive measure of price changes.

However, we note that CPIH is not currently designated by the UK Statistics Authority as a national statistic. This has an impact on the overall legitimacy of the index and we will revisit our assessment in the decision that will underpin our final methodology. We will therefore make our final decision on this issue in our final methodology where we will be able to reflect a future decision by the UKSA on whether CPIH regains its national statistic status.

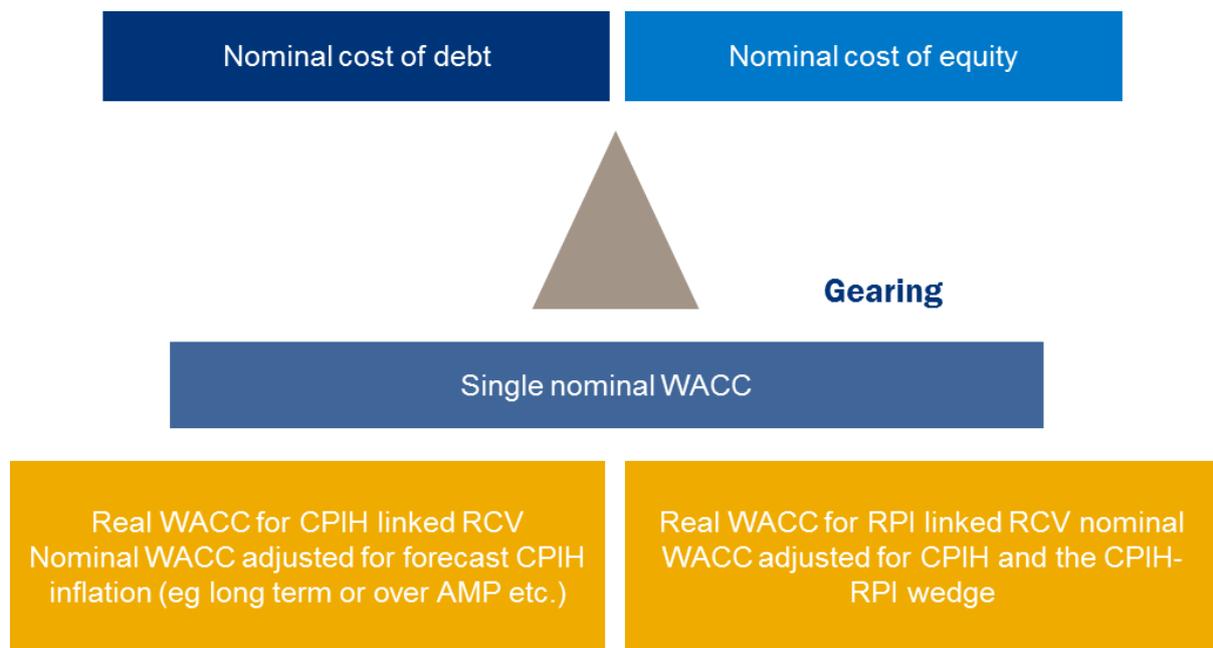
5.4 How our proposed approach will work in practice

From 2020, we propose that CPIH will be our inflation index for wholesale price controls. However, as part of the transition, we need to set a cost of capital in real terms for both the proportion of the RCV linked to CPIH and the proportion still linked to RPI. Figure 10 outlines how we propose to set the cost of capital allowances at PR19.

Figure 10 How we propose to set cost of capital allowances at PR19

Starting with a single nominal WACC, we will deflate this by our long-term view of CPIH. This will provide the cost of capital in real-CPIH terms. For the real-RPI based cost of capital, we will deflate the nominal cost of capital by the sum of our long-term view of CPIH and the long term RPI – CPIH wedge. We propose to not directly use RPI in setting the cost of capital from PR19 onwards.

We will publish further details on our assessment of long-term CPIH and the RPI-



CPIH wedge (assuming we confirm this as our preferred inflation measurement). We plan to publish these details when we state our initial view on the cost of capital for companies to use in developing business plans, and alongside our final methodology.

In May 2016, we also confirmed, as part of our decision to transition away from RPI, that we would true up the difference between the actual RPI-CPIH wedge observed over the price control period, and the forecast wedge when we make final determinations. Table 5 gives an illustrative example of how this would work. Each year the RPI-linked part of the RCV would be indexed to CPIH, along with the actual CPIH-RPI wedge. Companies’ allowed run off and return each year would vary with changes in the actual CPIH-RPI wedge.

Table 5 Illustrative CPIH-RPI wedge true up

Final Determination	Units	Year 1	Year 2	Year 3	Year 4	Year 5
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A	Opening RCV	£m	100	97.95	95.93	93.96	92.03
Inflation adjustment to opening RCV							
B	Actual CPIH	%	2.1	2.1	2.1	2.1	2.1
C	Forecast CPIH-RPI wedge	%	1	1	1	1	1
D	Indexation (B+C)	%	3.1	3.1	3.1	3.1	3.1
E	Indexation for RCV (D x A)	£m	3.10	3.04	2.97	2.91	2.85
F	RCV post indexation (A + E)	£m	103.10	100.98	98.91	96.87	94.88
Run off and closing RCV							
G	Run off (percent)	%	5.00	5.00	5.00	5.00	5.00
H	Run off	£m	5.16	5.05	4.95	4.84	4.74
I	Closing RCV (A + E)	£m	97.95	95.93	93.96	92.03	90.14
Cost of capital							
J	Real RPI based WACC	%	2.50	2.50	2.50	2.50	2.50
K	Year average RCV (nominal)	£m	100.52	98.46	96.43	94.45	92.51
L	Return (nominal)	£m	2.51	2.46	2.41	2.36	2.31

Outturn		Units	Year 1	Year 2	Year 3	Year 4	Year 5
A	Opening RCV	£m	100	97.95	95.75	93.60	92.21
Inflation adjustment to opening RCV							
B	Actual CPIH	%	2.1	2.1	2.1	2.1	2.1
C	Actual CPIH-RPI wedge	%	1	0.8	0.8	1.6	0.5
D	Indexation (B+C)	%	3.1	2.9	2.9	3.7	2.6
E	Indexation for RCV (D x A)	£m	3.10	2.84	2.78	3.46	2.40
F	RCV post indexation (A + E)	£m	103.10	100.79	98.52	97.06	94.60
Run off and closing RCV							
G	Run off (percent)	%	5.00	5.00	5.00	5.00	5.00
H	Run off	£m	5.16	5.04	4.93	4.85	4.73
I	Closing RCV (A + E)	£m	97.95	95.75	93.60	92.21	89.87

Cost of capital							
J	Real RPI based WACC	%	2.50	2.50	2.50	2.50	2.50
K	Year average RCV (nominal)	£m	100.52	98.27	96.06	94.63	92.24
L	Return (nominal)	£m	2.51	2.46	2.40	2.37	2.31

Reconciliation		Units	Year 1	Year 2	Year 3	Year 4	Year 5
	Run off	£m	0.00	-0.01	-0.02	0.01	-0.01
	Return	£m	0.00	0.00	-0.01	0.00	-0.01
	Total	£m	0.00	-0.01	-0.03	0.01	-0.02

Notes: Cost of capital and RCV run-off is assumed for the purposes of the illustration and should not be assumed to be Ofwat's view for PR19. Reconciliation will be applied at a subsequent price review in NPV neutral terms.

We expect to publish the corrected RCV (taking account of the actual CPIH-RPI wedge) each year on our website. This is consistent with our current approach and will ensure there is transparency over the RCV on an ongoing basis through the price control period. We also previously published an indicative spreadsheet model on the transition away from RPI, which stakeholders can refer to for further details²⁰.

In our May 2016 document, we outlined the potential effect the transition away from RPI could have on customers' bills. This could arise, for example, by setting a real-CPIH WACC, which is higher than the real-RPI WACC. In the short-term, this would increase customers' bills. We reconfirm our proposal that companies can choose to make use of the pay-as-you-go (PAYG) and run-off levers to soften the impact on bills arising from the transition. In the financeability chapter, we discuss how we will assess the use of the PAYG and run-off levers in more detail.

²⁰ Ofwat, '[RPI-CPI illustrative true-up model](#)', 7 April 2016 (published alongside our Water 2020 document)

6 Taxation

The regulated water companies are subject to the same corporation tax regime as all other UK companies. The amount of corporation tax that companies pay, depends on their level of profit, tax relief claimed for interest payments and capital allowances related to investment in certain types of assets.

In line with our statutory duties, we ensure that an efficient company can secure a reasonable return on its capital. We set the cost of capital on the basis of pre-tax debt and post-tax equity. As the return includes a post-tax cost of equity, it does not provide any amount to cover tax liabilities on its own. A separate tax allowance is required to make sure the revenue that companies receive covers all the relevant expenditure.

In practice, the actual amount of tax companies pay, is likely to differ from the allowance we calculate. Differences arise for various reasons, including:

- differences between the totex assumptions underpinning our final determination and the actual composition of a company's totex;
- increased or decreased spend compared with the level of expenditure in our determination; and
- differences between our cost of debt and actual interest rates paid by each company.

6.1 Basis of tax calculations

The calculation of tax liabilities is complex. In assessing companies' proposals for tax we will continue to use an approach based on projected profitability for the appointed business. The calculation will use allowed revenue and expenditure and assumed levels of tax relief. It will apply the rates for corporation tax and associated reliefs and allowances, as set out in UK tax legislation.

Consistent with the approach adopted for the 2015-2020 period, we propose to calculate the tax allowance for each of the wholesale price controls as if each of these price controls were standalone entities. This is consistent with the principle of ensuring that the revenue allowances for each control reflect the underlying costs for providing those activities.

To ensure that the amount customers pay is reasonable, the tax allowances within the wholesale price determinations will be based on the total tax charge for the wholesale business. We will cap the tax allowances for each of the wholesale

controls if the total is greater than the tax liability that we calculate for the combined wholesale controls. This is consistent with the approach that we followed in the 2015-2020 period.

As discussed in the aligning risk and return chapter, we propose that the retail controls receive a margin on profits which includes an allowance for corporation tax.

We have outlined our proposals for calculating corporation tax allowances in the following sections, including the key changes to the approach that we used in PR14.

6.2 Treatment of interest within corporation tax computations

Our calculations of the corporation tax allowances need to take account of interest payments, which can be offset against the profits for the purposes of the tax calculation.

Companies determine their own capital structure and are responsible for ensuring that their chosen structure is robust. However, companies that increase their level of gearing above our notional assumption, benefit from a higher interest tax shield. We consider it is reasonable that customers, rather than investors, should benefit from this higher interest shield. This removes the incentive for companies to increase gearing purely to benefit from the increased tax shield. It is also consistent with our view that companies should not increase gearing to a level where there is insufficient equity in the company to enable it manage cost shocks.

Consistent with these objectives, we propose:

- to continue to apply the approach to calculating interest deductions that was used in the PR14 final determinations. Our approach is to take account of interest payments on debt by using the higher of a company's actual proportion of debt financing and the proportion of debt financing assumed in our notional capital structure; and
- to continue the policy we applied at PR14 and PR09. This policy is to recover, at a subsequent price review, the tax benefits arising from any capital restructuring in 2020-2025. Tax benefits will be recovered where there is a one-off step change in gearing that is the result of a financial restructuring. This will ensure that tax benefits arising from a financial restructuring are passed back to customers.

New legislation was introduced with effect from April 2017. This legislation impacts the ability of companies to claim tax relief for the interest they pay on their debt. The

new base erosion profit shifting (BEPS) legislation potentially places a cap on the amount of interest that companies can offset against their taxable profits. It also restricts the deduction of interest payable on loans from connected parties. Further detail is set out on the [Deloitte report](#).

The legislation includes an exemption for infrastructure companies that are operating in the public interest (PBIE). Deloitte advises that this should include the regulated water and wastewater companies, provided that they are not carrying out any non-approved activities.

In the tax computations that underpin company business plans, we propose to assume that the PBIE applies, that all debt is provided to the companies by third parties, and that companies can gain the maximum corporation tax reliefs available from their interest payments. By taking the maximum interest deduction available, this will reduce the overall tax liability for each company and the overall cost to customers.

6.3 Approach to capital allowances

Companies will need to take account of available capital allowances in their business plans. To help develop our approach for PR19, we asked Deloitte to review the effectiveness of the approach used in PR14. We requested the views of companies on the associated regulatory burden, and discussed the issues arising at a [workshop](#) in February 2017. The outcome of this review is set out in the [Deloitte report](#).

For PR19, Deloitte propose an approach, based on the separate capital allowance pools in line with those defined by HMRC. This will marginally increase the amount of business plan data. However, consistency with the HMRC definitions should lead to less work for companies. The approach should allow easier reconciliations between the capital allowance information included in business plans and the actual levels of capital allowances agreed with HMRC.

Deloitte highlighted an inconsistency in the ways that companies were treating capital allowance disclaimers in their submissions to Ofwat. Accurate information is required from companies to ensure our determinations make maximum use of the allowances that are available to companies, and so minimise cost for customers. Therefore, we considered it appropriate to review our approach and guidance.

We expect all companies to make the best use of the tax reliefs they have available in their business plan for the benefit of customers.

Companies may choose to disclaim capital allowances (that is companies can choose whether to use their capital allowances in any year or to carry them forward to be used in future years) to make the best use of group relief available from other group companies. Where companies choose to disclaim capital allowances in any period, companies are able to carry the unused capital allowances forward. These can be used for the benefit of customers in future periods.

In our calculation of tax allowances, we will assume that companies make full use of all the capital allowances available to them. Therefore, where companies have chosen to disclaim capital allowances resulting in a higher opening capital allowances pool balances, we will use the higher opening pool balances in our calculation of tax allowances. We will also assume that full use is made of all capital allowances available as a result of any capital expenditure in each year.

Our proposed approach is designed to maximise the tax reliefs available for companies. This will minimise the tax liabilities for companies and the amounts that customers are required to pay to fund those liabilities.

6.4 Approach to group relief

Companies are able to reduce their tax liability by transferring losses from other group companies. Where companies do not pay for the transfer of those losses, a question arises as to whether the tax allowance, which is funded by customers, is too high. This was raised as an issue by the National Audit Office “NAO”.

In the [targeted review of corporation tax](#), Alvarez and Marsal identified that where companies had made use of group relief to reduce their corporation tax liabilities, there was an inconsistency in the way that companies were treating that group relief.

We asked Deloitte to consider how we should approach group relief for the 2020-25 period, to ensure we adopt an approach that appropriately balances the interests of customers and companies. We set out below our updated approach with respect to group relief.

Where companies receive group relief from other group companies, our default position (for purposes of our price determinations) is that companies should pay the full value for that group relief. This is to be calculated at the headline corporation tax rate.

If a company does not make a payment for group relief, we will recover a proportion of the tax allowance given to companies. This proportion will be equivalent to that unpaid for group relief.

This adjustment ensures that customers are not disadvantaged as a result of the company having received group relief for which it made no payment. Any adjustment would be made at the end of the period (at the same time as we make any adjustment) under the tax true up mechanism discussed below.

For the purpose of price setting, we propose to assume that where a company transfers losses from the appointed business to another group company, these are made at full value (based on the headline tax rate). We will deduct the full tax value of any losses surrendered in this way from the tax allowance. This approach will ensure that customers do not lose out as a result of losses being transferred out of the company that could otherwise be offset against tax liabilities in the future.

6.5 Tax true up mechanism

We have acknowledged in previous price reviews that changes in tax rates are matters that are beyond company control. However, we have continued to allocate the risks associated with changes in tax rates to companies as a part of normal business risk.

In its 2015 report, the NAO suggested we consider the merits of adopting a tax pass-through mechanism for circumstances beyond company control. A tax cost pass-through mechanism would ensure that customers pay no more than is implied by prevailing tax rates where tax rates are below our price determination assumptions, but would pay more where tax rates turn out to be higher than our price determination assumptions.

We have carefully considered the merits of a pass-through mechanism for PR19 and the alternative approaches that could be adopted. For PR19 we propose to introduce a mechanism where we make adjustments to the tax allowance for certain matters that are outside company control. We propose to recalculate the tax allowance for each year, in the event that there are changes to either the headline corporation tax rate or to the rates of capital allowances.

The mechanism is designed to be simple and transparent. It should avoid placing unnecessary burden both on companies and on us. We propose that the allowances will be recalculated using the totex allowances, PAYG and RCV run-off rates (set out

in the final determination) and any adjustments to cost of debt that are deemed appropriate, under the cost of debt mechanism.

We propose making these true-up adjustments at the same time as we make true-up adjustments in respect of the cost of debt. We are doing this to make sure:

- Customers will not pay more than is needed if corporation tax rates fall; and
- Companies will be properly funded if rates rise.

In their 2015 report, the NAO suggested that we could introduce an adjustment mechanism in line with the approach used by Ofgem. The approach used by Ofgem incorporates adjustments for the changes in headline corporation tax rates and the capital allowance rates proposed above. It also allows adjustments to be made for other items which have a material impact.

We have proposed recalculating the tax allowance to reflect changes in the headline corporation tax or capital allowance rates. We are further considering whether it would be appropriate to extend that mechanism to enable us to make additional adjustments to the tax allowance. Adjustments could be made for any other changes in tax legislation or accounting regulations (or to the interpretation of those regulations by HMRC) which result in material (for example more than 1% of allowed revenue) changes to the amount of tax that companies will be liable to pay.

If there are changes in relevant legislation then the corporation tax allowance could be adjusted to reflect the impact of these changes on the amount of tax which companies are likely to face. This type of mechanism would be symmetrical and could result in either an increase, or a decrease, in the tax allowances which are funded by customers.

Extending the mechanism in this way would be in line with the suggestion made by the NAO in their report. However, introducing this type of mechanism would require a full reconciliation of the tax allowance calculated, to the tax charge faced by the company, in each year. This could significantly increase the regulatory burden for both companies and us, in an area which represents a relatively small proportion of overall allowed revenue.

In practice, the allowance that we calculate for corporation tax is an estimate based on the expected performance of an efficient company. The actual tax liabilities that companies face may be different for many valid reasons, even if we make the adjustments noted above.

We are therefore seeking views on whether it would be appropriate to extend the proposed mechanism to include adjustments for any material changes.

Interest paid is a key component of the tax computation. This is why we propose that any adjustment should be made at the same time as we make the adjustments required under the cost of debt indexation mechanism - at the end of the price control period.

6.6 What options have been considered?

In this section we set out the options we have considered for a tax true up mechanism and our appraisal of the options.

Option 1: Continue with the policy used in the 2015-2020 period– no ex-post tax true up

Option 1 continues with the approach used in the 2015-2020 period. It is simple and easy to implement. It recognises tax legislation in existence at the start of the period, but does not allow us to reflect changes to legislation which are made after the final determination. As a result, companies accept the risk if tax rates increase. However, customers will not be able to benefit where tax rates fall

Option 2: Include a tax true up for specific matters which are outside of management control (changes in corporation tax and capital allowance rates) and adjustments in respect of any group relief received, but not paid for

This option would involve making an adjustment after the final determination to take account of any changes in legislation relating to corporation tax and capital allowance rates only. We would not take account of any other changes in tax legislation

Customers benefit when rates fall, but bills would increase when they rise. The trade-off is that customers should benefit through the cost of capital, as companies would no longer bear the risk of increases in tax rates.

Given the strong link between tax and interest costs, we would propose to make this adjustment at the same time as we make any adjustment for cost of debt. Therefore, we are proposing to make this adjustment at the end of the period. The timing of this adjustment will allow companies to take it into account when setting bills, and to avoid bill volatility.

The proposed approach is simple to implement and removes the risk of customers paying for tax allowances which are not required. It also takes into account the findings of the NAO and Public Accounts Committee “PAC”.

Companies will retain some ability to outperform the tax allowance by managing their business efficiently.

Option 3: Introduce a full tax true up mechanism in line with the Ofgem approach

A further option we have considered is the implementation of a comprehensive tax true up mechanism, which makes adjustments for all the items set out under Option 2, and other tax matters arising in the 2020-2025 period. These may include:

- changes to corporation tax legislation over and above the changes in corporation tax and capital allowances rates set out in Option 2;
- the impact of changes in the HMRC interpretation of tax legislation;
- the impact on tax charges of changes in case law; and
- the impact on tax charges of changes in accounting standards.

This approach mirrors that used by Ofgem. In their 2015 reports the NAO and PAC identified that, had we used this approach, then customers would have benefited in the 2010-2015 period. It also noted that, had corporation tax rates risen, then there would have been additional costs for customers.

The use of a mechanism described above introduces significant complexity for what remains a relatively small proportion of customer bills. This could potentially result in a significant increase in regulatory burden for both us and companies. It also removes any incentive for companies to outperform the tax allowance.

Even with detailed true up, the tax charge will differ to allowed tax. This is due to the difference in assumptions about the operating expenditure (opex) and capital expenditure (capex) components of the total expenditure (totex).

These additional adjustments would only be made where the cumulative impact on the tax allowance was material (for example, in excess of 1% of allowed revenue).

6.7 Our assessment of the potential options

We prefer Option 2 because it addresses the NAO/PAC concerns while being relatively simple to implement. It also does not disproportionately increase the

regulatory burden on companies and on us. We are, however, open to introducing a mechanism (as described in Option 3) if there is evidence that the benefits of this type of adjustment are worth the additional complexity and regulatory burden that it would bring.

Option 2 also allows us to address the current inconsistency relating to corporation tax rates. We can take account of known changes in the tax rates at the time we set the price control, but not changes that occur during the AMP.

Under both Options 2 and 3 customers will bear the additional cost if rates rise, but benefit when rates fall. Both proposals protect companies from the risk of increasing tax rates. This reduction in risk may, in turn, reduce the cost of capital. This reduces the opportunity for them to have windfall gains when corporation tax rates fall.

We would need to continue to encourage companies to share any tax windfalls that are not covered under the mechanism introduced.

Table 6 True up for taxation

	Option 1 No true up for taxation (current approach)	Option 2 Introduction of an ex post true up Preferred option	Option 3 True up mechanism in line with that used by Ofgem
Achieving our objectives	We can calculate a tax allowance but cannot take account of any changes in tax legislation following the FD. ✓	The proposal allows us to calculate the tax allowances that reflect current legislation relating to headline corporation tax and capital allowance rates. ✓✓	The proposal allows us to calculate the tax allowances that reflect current corporation tax legislation. ✓✓
How our objectives are achieved	Encourages companies to be tax efficient. Customers lose out when rates fall, but are protected if rates rise (unless companies commit to share such benefits).	Addresses most of the NAO/PAC concerns. Removes current inconsistency that we can take account of known tax rate changes at the time we set the price control, but not rate changes that are	In line with the recommendation of the NAO/PAC concerns. Removes current inconsistency that we can take account of known tax changes in the price control, but not changes that are unknown.

	x	unknown at the time of the final determination. End of AMP adjustment avoids unnecessary bill volatility ✓✓	End of AMP adjustment avoids unnecessary bill volatility ✓✓
Practicality	Simple to implement in line with current approach. ✓✓✓	Straight forward to implement with a relatively small increase in regulatory burden. ✓✓✓	Introduces significant complexity for what remains a relatively small proportion of customer bills. significant increase in regulatory burden for both Ofwat and companies ✓

6.8 How our proposed approach will work in practice

In practice, to implement our proposed mechanism we will update the PR19 financial model. This is to take account of any changes in corporation tax or capital allowance rates, and to allow for the impact of other changes in legislation if we were to introduce Option 3. At the same time, we will adjust both the cost of capital and the cost of debt. This is to reflect any changes required as a result of the cost of debt indexation mechanism. All other model inputs (e.g. totex) will remain unchanged from what was set out in the final determination.

We will then re-run the model to calculate revised revenue allowances, which will be reflected in the following control period.

We can then agree with companies how best to treat any change in allowance to ensure that any impact on customer bills is well managed.

7 Summary of responses to our cost of debt consultation

Introduction and overarching responses

Introduction

In September 2016, our consultation on the approach to the cost of debt for PR19²¹, set out our initial views on the policy for the cost of debt at the next price review. We requested stakeholders' views on a range of areas. These included, how we will set allowances for the cost of debt, as well as some very early ideas on how we could approach the cost of equity. We also published a report we had commissioned alongside the Civil Aviation Authority from Cambridge Economic Policy Associates²². The report was on the cost of debt for the next price reviews on both water and airports.

We received 25 responses²³, all of which were non-confidential and are published on our website. These responses came from a range of stakeholders, including:

- all of the water and sewerage companies;
- all the water only companies;
- several customer groups;
- several investor groups;
- Heathrow Airport; and
- an independent consultant.

Overall, respondents were broadly supportive of a number of our policy proposals, but expressed concerns in some areas. In particular, stakeholders wanted to understand, in more detail, how our proposals around the indexation of the cost of debt would work in practice. We have listened to respondents' views and, since the consultation closed, we ran a further workshop to discuss some aspects of our proposed policy in more detail. This engagement was focussed on the areas where

²¹ Ofwat, '[Consultation on the approach to the cost of debt for PR19](#)', 6 September 2016

²² Ofwat and Civil Aviation Authority, '[Alternative approaches to setting the cost of debt for PR19 and H7](#)', August 2016

²³ Ofwat, '[Consultation on the approach to the cost of debt for PR19 – responses](#)'

we felt respondents had raised the most significant challenges to our preferred position in our consultation.

We summarise some general responses by theme (not directly related to our consultation questions) in this section, and then outline responses by question. This annex supports our preferred policy positions as outlined in the main document and risk and return annex.

Efficiency of embedded debt

Some respondents proposed that we should be clear about the treatment of embedded debt costs for PR19. This was particularly relevant for debt raised in the past that companies deem to have been efficient at the time, but may now cost more than other companies' borrowing costs or current industry benchmarks. Some respondents also specifically referenced the uplifts that we made for several small companies' cost of debt allowances at PR14.

Our view remains that we will set a sector-wide cost of embedded debt. We recognise that individual companies will out or under-perform against that benchmark as a consequence of past choices about timing and tenor of debt issuance. This is a direct consequence of an incentive based regulatory regime. We will fully consider the allowances for embedded debt costs at PR19 later this year. This will be part of our indicative weighted average cost of capital (WACC) that we plan to publish alongside our final methodology.

Impact on the cost of equity

Several respondents suggested that our approach to the cost of debt may result in companies and their investors demanding a higher cost of equity at PR19 than they otherwise would. They considered factors, such as, indexing the RCV to CPI, CPIH not RPI, or, the overall level of complexity of our regulatory approach. They concluded that PR19 would increase the risks companies face.

Several other respondents also felt that any potential cost of equity reduction as a result of new debt indexation, was not a major factor for consideration. One respondent noted that indexing the cost of new debt would not entirely remove forecast risk error equally for all companies, which would be necessary to adjust the allowed cost of equity. Another respondent noted that the additional risks arising through implementing this model, specifically based around the choice of benchmark and calculation mechanism, would offset any risk reduction for forecast error.

We set out further details on our approach to the cost of equity in the main document and our 'Risk and Return' appendix. We do not consider that our proposed approach to the cost of debt will increase the risk that companies face. This approach will lead to a reallocation of exposure to movements in interest rates, from companies to customers. This will remove the forecast premium that might otherwise be implicit in a fixed allowance for the cost of new debt, and provide companies with protection in the event of increases in market cost of debt. The impact on the cost of equity would be captured within the equity beta. In our assessment of companies' business plans, we expect to evaluate companies' proposals around the cost of equity, against our initial expectations. We will publish these expectations alongside our final methodology.

Overall complexity of PR19

A number of stakeholders cited complexity as a concern in their responses. This was related to the potential complexity of our proposals on the cost of debt, for example, with the specific mechanics of an indexation mechanism. However, several respondents also noted the overall complexity of the proposed PR19 regulatory package, for example, the transition to CPI or CPIH for indexation of revenue and the RCV.

We understand companies' concerns about complexity. In developing our proposals for both the cost of debt and Water 2020, we have considered, and will continue to consider, the overall level of complexity of our proposals. However, we do not consider that complexity is, in itself, sufficient justification to not pursue a policy that we consider is in customers' interests. We also note stakeholders' feedback from our workshop about the ways we can help to make our proposals clear and transparent, which we expect to do at PR19.

Cost of equity menu

In September we consulted on our approach toward the cost of debt for PR19. In the document, we consulted openly on some initial thoughts around our approach to the cost of equity, specifically on a menu based approach to the cost of equity (as proposed by the Essential Services Commission (ESC) in Victoria, Australia).

A variable cost of equity is part of the ESC's model and is an alternative approach to our current package of incentives. It offers a menu of cost of equity returns for differing levels of company ambition, the regulators' risk based assessment of the business plan and the assessment of subsequent delivery against the plan. By doing so, it seeks to further align company objectives with that of their customers.

Generally respondents welcomed our early and open consultation on this. The key points raised around the practicalities of implementing an approach like this were:

- it may involve a significant amount of subjectivity in our assessment – we would need to build in sufficient objectivity to make it a viable approach;
- there is a risk that companies try to satisfy us and our criteria for an enhanced cost of equity, rather than their customers. This would be counter to the focus we expect companies to place on customer engagement at PR19;
- some respondents were unclear on how this approach would relate to our initial assessment of business plans , including specifically any potential enhanced status for companies;
- the regulatory landscape in Victoria is fundamentally different from the UK – the model may not therefore be directly comparable (for example, there are no ODIs or totex cost sharing factors); and,
- the Victorian approach is, as yet, untested, therefore there is no sound evidence base that it actually works in practice or has delivered the intended outcomes.

We also asked PwC to consider further how relevant or applicable an approach incorporating a cost of equity menu could be in the UK Water sector²⁴. PwC highlighted two areas that fall outside of the current regime – ambition and innovation. Both of these have the potential to offer benefits to customers and further align customer and shareholder interests. Ambition and innovation incentives could shift the frontiers for service and cost performance which can be used to assess the industry as a whole. We set out in our consultation our proposals to embed ambition and innovation in the initial assessment of business plans.

²⁴ PwC, 'Refining the balance of incentives for PR19', March 2017

Outline of responses by question

Question 1: Do you agree that the cost of debt allowance should be set on the basis of a notional capital structure and notional cost of debt for all companies as opposed to being based on the actual capital structure and debt costs of each company?

The majority of respondents supported our proposal to set the cost of debt allowance for all companies based on a notional company capital structure and debt costs. These respondents highlighted the following points:

- The notional structure is well known and widely accepted by stakeholders. This regulatory certainty is important;
- The notional structure should be set to be a benchmark of efficiency for companies, including around debt allowances; and
- Companies should have the flexibility to adopt their own capital structures. Setting notional allowances for companies incentivises them to identify more efficient financial arrangements where available, without exposing customers to these risks.

One respondent disagreed with setting allowances on the basis of a notional financial structure. He questioned the rationale for setting customer charges on the basis of a notional structure that does not reflect the reality of companies' structures.

We continue to think that allowances should be set on the basis of a notional capital structure. We have a duty to enable companies to finance their functions. We interpret this as allowing an efficient company to be able to finance its functions. Customers should not be responsible for funding inefficient financing structures or debt costs.

This approach is central to allowing companies to make their own choices about financing, while making sure that customers pay no more than the efficient financing cost. Companies are free to choose their actual capital structure and the debt instruments raised, but customers will only face the efficient cost of debt for a notionally structured company. As outlined in the main document we expect to set notional allowances that are efficient and that reflect companies' actual capital costs and financing arrangements, as well as wider market benchmarks.

Question 2: We do not propose to introduce a specific benefit sharing arrangement for companies with securitised capital structures. Do you agree with this approach?

The majority of respondents supported our proposal to treat all companies the same, whether they have a securitised structure or not. These respondents noted that:

- customers will have already benefitted from lower debt costs (enabled by securitised structures) when we set allowances at previous price reviews;
- companies should bear the risk of their choice of financing structure, securitised or otherwise;
- customers may bear costs as well as benefits through any potential sharing arrangements that we might apply to securitised companies; and
- securitised structures may not all be alike. Therefore, to use a broad brush approach may be problematic in practice.

One respondent noted that companies with securitised structures should not be excluded from any cost or risk sharing mechanisms adopted by other, non-securitised, companies. We agree. We propose that neither the notional financial structure, nor, risk sharing arrangements, should be different for securitised companies. This is consistent with our overall approach to capital structure, described above.

Question 3: Do you agree to the introduction of indexation for the allowance for the cost of new debt?

While respondents generally agreed that we should continue to set fixed allowances for embedded debt, they expressed a range of views on our proposal to index the cost of new debt only, at PR19.

The majority of respondents expressed concern with some elements of our proposals, or noted that they would need further information to fully understand the impact. These respondents raised the following points of challenge or clarification:

- the choice of benchmark index, including whether this is set in real or nominal terms, is required to understand the impact of our proposals;
- the legitimacy of this approach hinges on the way indexation would work. Stakeholders requested that we do more work to explain how it work would; and
- we need to consider carefully the timing of the introduction of indexation, specifically in the context of a rising interest rate environment.

Several respondents disagreed with our proposals, either as a matter of policy or of practice. These respondents noted that:

- companies, not customers, are best placed to manage the risks associated with financing costs;
- true ups will add complexity. This may increase the cost of capital;
- indexation of new debt will reduce the incentives on companies to innovate. Innovation under the current arrangements has historically led to improved customer outcomes through lowering financing costs; and
- indexation creates uncertainty over what new debt allowances will be, increasing risk for companies.

Several respondents also proposed a mechanism to share less of the costs or benefits of outperformance with customers. Under this arrangement companies would, for example, only pass 50% of the benefit of a fall in the cost of borrowing to customers. Likewise, customers would only be exposed to 50% of the increases in costs. Some respondents also expressed a concern that indexing the cost of new debt would take our regulatory regime closer to a 'rate of return', rather than an incentive based price cap approach.

We continue to think that indexing the cost of new debt only, is the right approach. We set out our reasons in the main document and our 'Risk and Return' appendix.

We do not consider that indexing the cost of new debt only, represents a movement away from price cap regulation. We note the other relevant features of our regulatory approach are all at odds with a 'rate of return' approach.

These include:

- performance against the cost of embedded debt;
- performance commitments;
- outcome delivery incentives; and
- costs assessment.

We do not consider that sharing only some of the costs or benefits of changes in the cost of borrowing would be in customers' interests. We consider that full indexation of debt allowances is the best approach. As set out in the main document, indexation is designed to stop customers paying for the risk of forecast error. We think that a hybrid approach to setting debt allowances (eg 50-50 sharing) would likely retain some element of risk being included in upfront debt allowances, otherwise companies may be exposed to more risk. We therefore do not consider that this meets our policy objectives.

We do not consider that stakeholders' current expectations of future interest rate rises should affect our decision to introduce indexation of new debt. We note the analysis in this appendix, which outlines that low interest rates and bond yields are expected to continue into the 2020-25 price control period. We also consider that the risk of forecast error (in particular the risk of setting allowances at too high a level due future uncertainty) has been a feature at previous price controls, irrespective of the prevailing pattern of interest rates and borrowing costs.

The consultation focussed on the principle of debt indexation, rather than the precise mechanics of how indexation would work in practice. We discussed the options relating to how a mechanism would operate in practice at a workshop, and we are now consulting on the preferred option. We have provided further details about how we think indexation could work and what index we propose to use. These are outlined in the risk and return chapter of the consultation document and earlier in this appendix.

Question 4: Do you agree that indexation of the new debt allowance should have an end of period adjustment?

The majority of respondents agreed with our proposal to have end of period adjustments. Some respondents who agreed also noted:

- We should set the upfront allowances in the same way as we have previously, or, use some element of forecasting in setting allowances to ensure companies' financeability is not challenged;
- Financing should not be considered in isolation, but alongside, other incentive mechanisms and overall company performance (for example, against ODIs);
- In-period adjustments may lead to additional bill volatility, which might not be acceptable to customers;
- We should consider spreading the impact of any adjustment over the whole of the next price control period to avoid any significant movements in customer bills; and
- We need to consider whether the adjustment should be to revenue or the RCV.

A minority of respondents were either in favour of in-period adjustments, or wanted us to allow them the flexibility to use in-period adjustments with customer support. These respondents noted that:

- In-period adjustments may be perceived positively by credit ratings agencies. The calculation of financial ratios may help to maintain credit ratings;

- In-period adjustments may smooth the impact of changes in borrowing costs that customers would face at the next period; and
- The impact of changes in the cost of new debt only, may not be material to customers. Customers' views would help to establish the level of support for more regular adjustments.

We continue to prefer end-of-period adjustments to maintain bill stability. We do not expect to allow licence changes that would allow companies the flexibility to choose in-period adjustments. We consider that end-of-period adjustments are simpler to implement. This is consistent with the approach to in-period ODIs, as ODIs relate to performance that is predominantly within management control. Here it makes sense to bring the reward and penalties, closer in time to the performance that generated them. This benefit does not apply to in-period debt adjustments, as movement in financial markets that affect borrowing costs are not within companies' control. We set out further details in the main document. However, we also note that our proposed indexation mechanism would allow companies and other stakeholders to determine the impact of any changes to the cost of new debt over the period. We consider that this will ensure transparency for relevant stakeholders, including, customers, investors and rating agencies.

Question 5: Do you agree to an adjustment to the inflation estimate to reflect out-turn inflation and so mitigate inflation forecast error for new debt only?

Only a minority of respondents agreed with our proposal to also true up the cost of new debt for out-turn inflation. Those who agreed noted that an inflation adjustment would prevent customers from overpaying, or companies outperforming against inflation allowances. One respondent noted its concern with indexing new debt allowances in general, but supported the policy of also adjusting for out-turn inflation, if we decided to proceed with indexation.

Two further respondents noted that they would prefer for any inflation adjustment to apply to both new debt *and* embedded debt, rather than new debt specifically.

The majority of respondents' either disagreed with our approach, or noted significant concerns around some of the following areas:

- Whether the adjustment should be based on short-term outturn or 'spot' inflation, as opposed to long-term or 'breakeven' inflation. Specifically, respondents noted that the inflation assumptions priced into nominal debt reflect long-term inflation expectations over the duration of the debt instrument. Trueing-up for short term

inflation movements may therefore create a mismatch in company costs and allowances;

- The incentives on companies to raise nominal or index linked debt. Companies generally look to manage their exposure to inflation by using a mix of real and nominal debt. Inflation true-ups may alter the relative risk profile of financing decisions;
- How the mechanism would actually work in practice. Several respondents noted a desire to better understand exactly how the true-up would work;
- Which inflation measure we would use for the true-up – RPI or CPI/CPIH; and
- The wider implications of our move to CPI or CPIH in the context of the overall complexity of the regime, and whether there was sufficient evidence of volatility in CPI to justify a true-up.

Following consultation responses and our own further analysis, we now propose to true-up for long term inflation, not short term. We consider that this is more consistent with our approach to regulation, and to the nature of nominal debt that companies may use. We explain our approach and rationale further in the risk and return chapter of the consultation document and earlier in this appendix..

Question 6: Do you agree that we should leave companies to develop their own company specific risk mechanisms on a voluntary basis for the 2019 price review and we should not mandate a company specific risk sharing mechanism?

The majority of respondents supported our approach to not mandate any additional risk sharing mechanisms. Some of these respondents also highlighted that:

- If we decide to introduce indexation for the cost of new debt, this will effectively pass this risk to customers. There is limited rationale for anything further around new debt;
- Risk sharing is best left to companies to discuss with their customers, rather than it being decided by the regulator; and
- For some companies, risk sharing around the cost of debt would not be appropriate for customers as it would result in higher customer costs. For example, where companies' current debt costs are higher than our notional allowances, customer costs would rise.

Some respondents also raised the following points around risk sharing:

- Any arrangement around financing costs should also take into account other incentive mechanisms or sharing factors;

- We should be clear with companies if we have any expectations on companies proposing risk sharing mechanisms, before companies engage with their customers. This would avoid a situation where a company secures customer support for something that does not meet our expectations; and
- It may be challenging for companies to engage customers around financing costs, and therefore potential risk sharing mechanisms.

While most respondents supported symmetric sharing of loss and benefits, we note that one respondent proposed that sharing should be one way only and customers should not bear any of the loss.

We continue to prefer to not mandate any additional risk sharing mechanism. We note respondents' concerns about whether we have expectations that companies and their customers are not aware of. We confirm that we do not currently expect companies to propose risk sharing around financing costs, although we expect companies to fully consider such approaches ahead of PR19. This is particularly true, in the context of our approach to the initial assessment of business plans. We expect companies to be able to engage with their customers on all aspects of the price control, including financing. We agree that our proposal to index the cost of new debt is, in effect, a form of risk sharing with customers.

Question 7: What are the potential advantages and disadvantages of a menu based approach to the cost of equity, compared with the approach adopted by Ofwat at PR14?

Generally respondents welcomed our early and open consultation on this. Many also welcomed the approach, or, that we were considering it and had consulted on it. Respondents also provided the following feedback on a menu approach to the cost of equity to reward ambition (such as, the PREMO approach proposed by the Essential Services Commission in Victoria, Australia):

- It may involve a significant amount of subjectivity in our assessment. We would need to build in sufficient objectivity to make it a viable approach;
- There is a risk that companies try to satisfy us and our criteria for an enhanced cost of equity, rather than their customers. This would be counter to the focus we expect companies to place on customer engagement at PR19;
- It is unclear how a PREMO approach would relate to our initial assessment of business plans, including specifically, any potential enhanced status for companies;

- The regulatory landscape in Victoria is fundamentally different from the UK. The model may not, therefore, be directly comparable (for example, there are no ODIs or totex cost sharing factors);
- Regulated companies in Victoria are public, not private. This impacts on the capital structure of companies, and therefore the way they are regulated and incentivised;
- The Victorian approach is as yet untested. Therefore, there is no sound evidence base that it actually works in practice, or has delivered the intended outcomes;
- There may be an inherent bias in the classifications or menu approach. For example, no company board would want to sign off on a 'basic' business plan. Conversely, companies might aim for a safe option to minimise the risk of a cost of equity downgrade.
- There would be challenges for us in setting the 'standard' cost of equity, and applying that at other bands.

We have set out details in the aligning risk and return chapter of the methodology consultation and the risk and return appendix on our approach to the balance of incentives and cost of equity. We also asked PwC to consider further, how relevant or applicable a PREMO type approach could be in the UK Water sector. We consider that our approach to the initial assessment of business plans and incentives, will be sufficient to encourage companies to be innovative and ambitious at PR19. We therefore, do not propose to adapt a menu based approach to the cost of equity for PR19.