

January 2014

Setting price controls for 2015-20 – risk and reward guidance



OFWAT

Overview

This document sets out guidance on risk and reward following our communication on 19 December 2013.

We received companies' business plans in early December. Following our initial testing of the companies' views on risk and reward, it was clear that these were not in alignment with market evidence. As a result, later in December 2013, we issued an information bulletin ([IB28/13](#)), which outlined that we would be providing a further opportunity for companies to secure the best possible outcome for customers. We stated that we would issue further guidance on risk and reward, including our view on the cost of capital and other key financial parameters given the risks that companies should be taking and those which customers will be bearing. This document sets out that guidance.

Pre-qualifying companies will need to consider whether to accept this guidance and therefore gain enhanced status.

In line with our published timetable for the 2014 price review (PR14), we are currently carrying out a risk-based review (RBR) of company business plans. At the end of this process, we will assign each element of company business plans – and each company overall – into one of three categories: 'enhanced', 'standard' or 'resubmission'. A company's categorisation will determine which process it needs to follow to complete the price review in 2014, as well as the broader reward package that will be available to it.

In March 2014, any companies that pass our tests for costs, outcomes, affordability and Board assurance will pre-qualify for enhanced status. The Boards of these companies will then have to decide whether to accept the risk and reward guidance set out in this document and in so doing gain enhanced status. The business plan of any pre-qualified company that chooses not to accept the guidance will then be assigned as standard and then follow the standard price review process. We summarise the process in table 1 below.

Table 1 Overview of the process for the remainder of the RBR

Date	Phase
10 March	Announcement of pre-qualified companies.
17 March	Deadline for pre-qualified companies to accept risk and reward package and provide revised business plans.
4 April	Announcement of results of RBR for all companies.

Our RBR process will deliver benefits for customers. Enhanced status will confer a number of benefits on customers and companies. Customers will benefit from the incentives that we are putting in place for companies to deliver an excellent business plan and to minimise the costs of regulation. The benefits to companies will include certainty earlier in the price control process (through a draft determination in April 2014). This early start gives enhanced companies a greater opportunity to deliver for their customers and outperform during the price control period. In addition, they will obtain financial benefits in the form of an enhanced cost performance (totex) menu. Finally, all pre-qualifying companies will gain reputational benefits in capital markets and from customers from our recognition that they have produced an excellent business plan for their customers.

For enhanced companies, we have already confirmed that a ‘do no harm’ principle will apply. This means that we would amend companies’ allowed return in line with any upward adjustment for other companies if there were to be a substantial shift in capital markets – or other unexpected events which meant that the risk and reward package needed to increase.

The right balance of risks and rewards matters for customers.

As set out in our methodology statement¹, high-quality business plans will include appropriate risks, rewards and penalties. Effective rewards and penalties benefit customers by providing meaningful incentives to provide the best service and by ensuring risks are allocated to companies where they are best placed to manage them. The overall level of return (based on companies’ expected performance) directly impacts customer bills. For example, a 0.5% increase in allowed weighted average cost of capital (WACC) increases annual bills by around £10. We have a

¹ Ofwat (July 2013), ‘Setting price controls for 2015-20 – final methodology and expectations for companies’ business plans. Appendix 5: Guidance on business plan tables’, p56-57, (http://www.ofwat.gov.uk/pricereview/pr14/pap_pos201307finalapproachapp5.pdf). Referred to as the ‘methodology statement’ in this document.

primary duty to protect the interests of consumers and will do this by ensuring that customers pay the right price for their service.

Setting the appropriate level of return is also important to our primary duty to ensure that efficient companies are able to finance their functions.

The risk and reward proposals in company business plans currently provide little incentive for outperformance and consequently depend on higher WACCs to provide investors' returns. This means the proposed balance of risk and reward is not sufficiently aligned with the best interests of customers.

Business plans should also provide for meaningful incentives and returns for cost and outcome outperformance. In this document, we provide guidance on how the package of outcome delivery incentives (ODIs) should be calibrated to provide meaningful financial incentives. This guidance should be read alongside our methodology statement which set out a framework for developing ODIs.

Given a single cost of capital and consistent ODI range, our view is that there should be a common approach to uncertainty mechanisms unless there is a factor which makes a company distinctive. This document contains guidance on acceptable uncertainty mechanisms.

We continue to expect each company to demonstrate that they are financeable with allowed returns consistent with our guidance, making use of the full range of tools available to them.

Summary of key risk and reward issues and further guidance

Table 2 below sets out our guidance for each element of risk and reward, along with a summary of company proposals. We provide further explanation and guidance in the appendices.

Table 2 Summary of key issues and further guidance

Issue	Company proposals	Ofwat guidance	Further information
Appointee weighted average cost of capital (WACC) (equivalent to the PR09 WACC)	Appointee WACC exceeds market evidence on required returns.	Notional company vanilla WACC expected to be no higher than 3.85%. Any adjustment, for small companies, to this parameter must be cost beneficial to customers.	Appendix 1 (appointee cost of capital)
Retail profit margins: household/non-household	There is wide variation in estimated retail margins, broadly in line with regulatory precedents.	Retail household and Wales non-household margin: 1.0%. Retail non-household margin (England): 2.5% (of which 1.5% reflects premium allowed for risk and is additional to appointee WACC).	Appendix 2 (retail)
Wholesale WACC	Exceeds market evidence.	3.7%, calculated by deducting retail margins (excluding premium for competitive risks in non-household) from the appointee WACC.	Appendix 3 (wholesale)
Outperformance	Wide variation of proposals from companies, including variation in level and balance of cost performance and outcome delivery incentives (ODIs). Data from companies indicate that total expected upside is less than 2.0% for most companies. Most proposed ODIs are either	Overall return on regulatory equity (RoRE) range of +/- 3.5% to 4.5%, in line with regulatory precedents. Companies should reconsider overall scope for outperformance from cost, ODIs, service incentive mechanism (SIM) and financing. This is in order to provide an effective package of rewards and penalties that will provide meaningful incentives to encourage the best service. Companies should resubmit ODIs with meaningful rewards and penalties as part of this	Appendix 4: (outperformance)

Issue	Company proposals	Ofwat guidance	Further information
	reputational or penalty only.	package.	
Uncertainty mechanisms	There is wide variation in how companies have approached uncertainty mechanisms, which is not consistent with a single notional industry return.	Companies should provide greater transparency around pain/gain and how this is shared between customers and other stakeholders. Notified items will only be appropriate where the probability of an event or its impact cannot be influenced by a company.	Appendix 5 (uncertainty mechanisms)
Process for adopting this guidance	n/a	Explains process for revising business plans.	Appendix 6 (process)

List of appendices

Appendix 1: Appointee level WACC assessment	7
Appendix 2: Retail level assessment	25
Appendix 3: Wholesale level assessment	34
Appendix 4: Outperformance and ODIs	37
Appendix 5: Uncertainty mechanisms	52
Appendix 6: Process for adopting this guidance	56

Appendix 1: Appointee level WACC assessment

A1.1 Approach

We have two important primary statutory duties in the context of considering risk and reward packages. The first is to protect the interests of customers; the second is to ensure that efficient companies can finance their functions. It is crucial for both of these statutory duties that there is an appropriate balance of risks and rewards between companies and customers.

In our methodology statement, we explained that we were moving away from a single price control to have different price limits across different areas of a water company's business (retail for household and non-household customers, and wholesale water and wastewater).

Explicit consideration of the appointee cost of capital is important for a number of reasons.

- First, a customer does not differentiate between the wholesale and retail elements of their water bill: it is the total bill which matters, and the cost of capital is an important element of this.
- Second, company financing is undertaken at the appointee level.
- Third, assessing the appointee cost of capital is a key analytical step in assessing the appropriate returns from individual controls.
- Finally, it provides the basis for comparison of the weighted average cost of capital (WACC) between previous price controls and PR14.

In this appendix, we present companies' views on each of the inputs into the WACC. We set out our view on each of these inputs, as well as the appointee return we consider appropriate. For PR14, we continue to use the capital asset pricing model (CAPM) as our primary method for calculating the cost of equity. We have estimated a forward-looking cost of capital taking account of expected market developments, including rising future interest rates. We do not expect to change our view on the allowed return unless there is a substantial shift in capital markets – or other unexpected events which meant that the risk and reward package needed to change.

The key components of the WACC are:

- gearing;
- the cost of equity; and
- the cost of debt.

We discuss each of these below.

A1.2 Gearing

Company submissions

With the exception of one water only company, all companies proposed a notional gearing within a range of 60% to 70% in their business plan submissions. There was a bunching towards the lower end of this range.

Table 3 Summary of company views on notional gearing

WACC inputs	Company range (min)	Company range (max)	Industry average ²
Gearing (Net debt:RCV)	57%	70%	61.1%

Source: Business plan submissions.

Our guidance

In July 2013, we published a report by PwC³ on the methodology for assessing the cost of capital. PwC advised retaining a notional capital structure for setting returns. It also reviewed appropriate notional capital structure assumptions for PR14. It looked at evidence in relation to:

² All averages in this appendix are prepared on a regulatory capital value (RCV) weighted average basis. This aids the assessment of overall industry impacts.

³ http://www.ofwat.gov.uk/pricereview/pr14/rpt_com201307pwccofc.pdf

- the actual gearing of water companies;
- whether the current low interest rate environment had encouraged actual gearing levels to move away from a long-term efficient gearing level;
- the gearing range that could support an investment grade rating and meet financeability requirements; and
- regulatory benchmarks for gearing in other sectors.

PwC concluded that a range of 60% to 70% would be an appropriate assumption. Our analysis of financeability, including on business plan submissions, suggests that the appropriate gearing level is likely to be towards the bottom end of this range. This is consistent with business plan submissions.

For the purposes of our cost of capital assessment for pre-qualification guidance, **we will be using a range of 60% to 62.5%, and a point estimate of 62.5%**. We consider this level balances the benefits of lower-cost debt financing with considerations of financeability.

A1.3 Cost of equity

Company submissions

We summarise company views on the components of the cost of equity in table 4 below. Using the CAPM approach, the cost of equity comprises three components:

- the risk-free rate (RFR);
- the equity market risk premium (EMRP); and
- the equity beta.

Table 4 Summary of company views on cost of equity

WACC inputs	Company range (min)	Company range (max)	Industry average
Total equity market return (TMR)	6.50%	7.25%	7.01%
Real risk-free rate (RFR)	1.25%	2.1%	1.82%
Equity market risk premium (EMRP)	5.00%	5.75%	5.19%
Gearing (Net debt:RCV)	57%	70%	61.1%
Asset beta	0.33	0.40	0.37
Equity beta	0.84	1.07	0.93
Cost of equity (post-tax)	6.0%	7.9%	6.6%

Note: The cost of equity range parameters are all taken from business plan submissions. Therefore, they cannot be calculated directly from the figures in the table.

Below, we provide further details on the component parts of the cost of equity in company submissions and our guidance on these individual components. When calculating the cost of equity we first consider evidence of the total equity market return (TMR) and then turn to the individual components of the TMR – the RFR and the EMRP. Most of the companies adopted this approach.

A1.4 Total equity market return

Company submissions

Most companies used both historical information on the total equity returns and forward-looking techniques for assessing expected equity return requirements. Most considered total expected equity market returns should be stable over time and placed greater emphasis on longer-term historical evidence on equity returns. The average figure across the companies was 7.0%, which is in line with historical estimates, and the central point in the range provided by Smithers (2003)⁴.

⁴ Smithers & Co (2003), 'A Study into Certain Aspects of the Cost of Capital for Regulated Utilities in the U.K.'.

Our guidance

We consider that there are valid arguments for reducing the TMR compared with historical evidence on returns and historical regulatory precedents.

Companies have had to rely on evidence available well ahead of submitting their business plans. In part, this is because the cost of capital is likely to be determined before finalising other parts of plans, and in part because being a significant input it requires commensurate Board assurance⁵.

There have been significant recent regulatory decisions on the level of the TMR that companies might not have been able to fully take into account. Specifically, the TMR has been extensively reviewed by the Competition Commission (November 2013)⁶, CAA (January 2014)⁷ and ORR (October 2013)⁸, and is currently the topic of an Ofgem consultation⁹. Each of these regulators has reviewed historical and forward-looking evidence of equity returns, and has considered the impact of the current economic and financial market environment and of changes to the calculation of the Retail Prices Index (RPI). The key findings are as follows.

- The Competition Commission (CC) concluded that a range of 5.0% to 6.5% was appropriate in its provisional findings for the Northern Ireland Electricity (NIE) determination. This placed more reliance on contemporary and forward-looking estimates.
- The ORR used a range of 6.5% to 6.75% based on historical and forward-looking analysis.

⁵ Although we acknowledge some companies have subsequently considered and provided evidence on the CC provisional decision.

⁶ <http://www.competition-commission.org.uk/our-work/directory-of-all-inquiries/northern-ireland-electricity-price-determination>

⁷ <http://www.caa.co.uk/docs/33/CAP%201138.pdf>

⁸ <http://www.rail-reg.gov.uk/pr13/publications/final-determination.php>

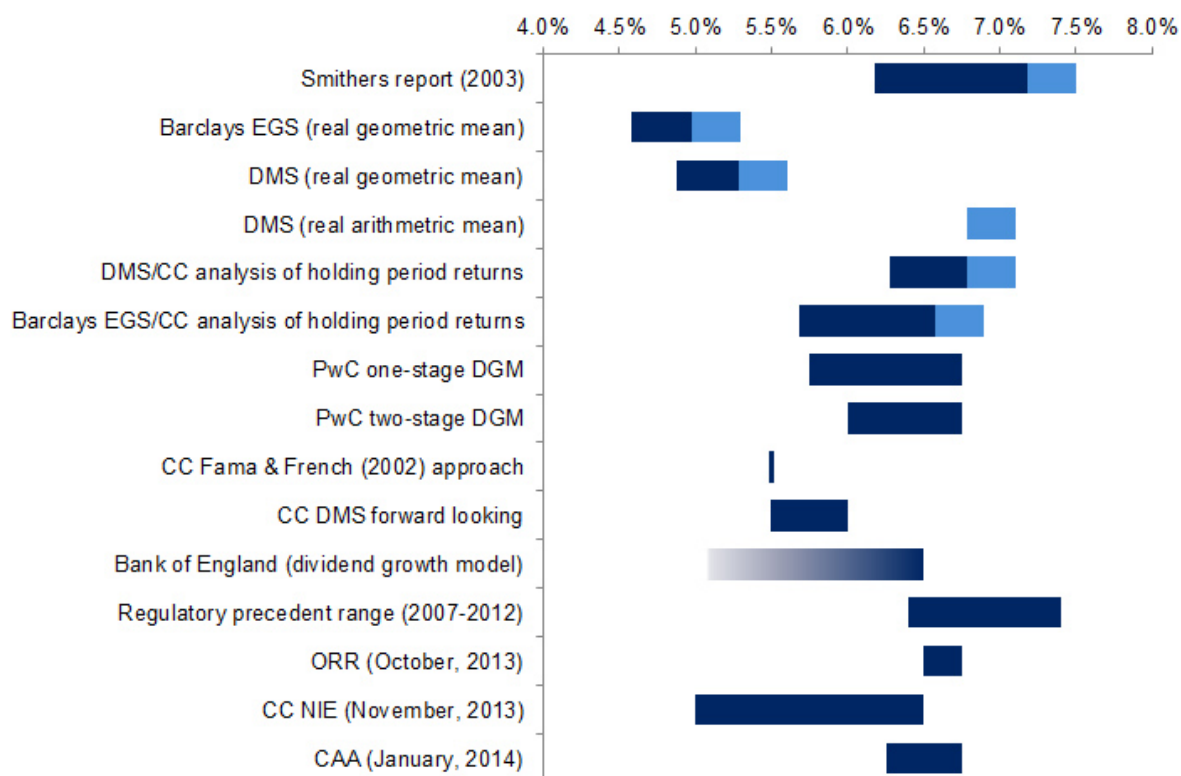
⁹ <https://www.ofgem.gov.uk/ofgem-publications/85020/bconsultationonequitymarketreturnmethodologyletter6dec2013.pdf>

- The CAA used a point estimate of 6.25% on the basis of historical and forward-looking analysis, and justified the reduction from previous regulatory determinations on the basis of the current economic and financial market environment and of changes to the calculation of RPI, which will generate higher reported inflation in the future.
- Ofgem used a figure of 6.85% to assess electricity distribution network operators' business plans – but it noted that a direct translation of the CC decision in NIE would suggest a return of 6.00% and is consulting on whether to change its methodology in light of this.

We have reviewed a range of historical and forward-looking evidence on the TMR. Estimates obtained from historical sources, such as long-term equity return studies, are consistent with a historical calculation of RPI. Following changes to the ONS methodology for calculating RPI, current and future RPI is expected to be higher than under the previous methodology¹⁰. This will increase nominal total returns on RPI-linked assets, and for the purpose of calibrating our TMR assumption means we should reduce the figures from historical studies by the size of the change in the RPI formula effect. We do not adjust forward-looking evidence, because these typically embed current expectations for RPI as part of their calculation approach (for example, the dividend growth model).

¹⁰ The size of the change in the RPI formula effect is estimated by the ONS to be approximately 0.32%. ONS (2010), 'CPI and RPI: increased impact of the formula effect in 2010'. This change related largely to the calculation of clothing prices and has minimal impact on water company cost pressures.

Figure 1 Total market return evidence



Note: Dark blue bars represent range adjusted for change in RPI formula effect. Light blue shows top end before this adjustment.

Sources: See footnotes 3-6; Credit Suisse Global Investment Sourcebook, Dimson, Marsh and Staunton (DMS); Barclays Equity Gilt Study; Fama, E F and French, K R, 'The Equity Premium', Journal of Finance, April 2002; Mika Inkinen, Marco Stringa and Kyriaki Voutsinou: 'Interpreting equity price movements since the start of the financial crisis', Bank of England Quarterly Bulletin, 2010 Q1; PwC, 'Estimating the cost of capital in Q6 for Heathrow, Gatwick and Stansted, A report prepared for the Civil Aviation Authority'; Regulatory determinations.

We consider there are valid arguments for reducing the TMR compared with historical evidence on returns and historical regulatory precedents.

- First, a number of commentators have suggested that the equity returns achieved historically may have been caused by factors which are unlikely to be repeated. Future expected returns are therefore likely to be lower than historical returns¹¹.

¹¹ For example, Dimson, E, Marsh, P and Staunton, M (2011), 'Equity premiums around the World', London Business School.

- Second, monetary policy and investor appetite have significantly reduced Government and corporate bond yields and put downward pressure on returns across most asset classes. While the unprecedented macroeconomic environment is showing strong signs of improvement, and the effects on yields should unwind, forward rates do not suggest a quick return to a pre-crisis financial environment.
- Third, the increase in the RPI formula effect, which has occurred since the 2009 price review (PR09), will increase nominal returns on RPI-linked assets. This means we use a higher RPI assumption and a lower real equity return is required to achieve a given nominal return.

For our pre-qualification guidance, we use a range of 6.25% to 6.75% with a point estimate of 6.75% at the upper end of the range. This makes some allowance for the three factors we have identified, which suggest current total equity return expectations should be below historical evidence on returns. This is supported by forward-looking techniques such as the dividend growth model.

A1.5 Risk-free rate

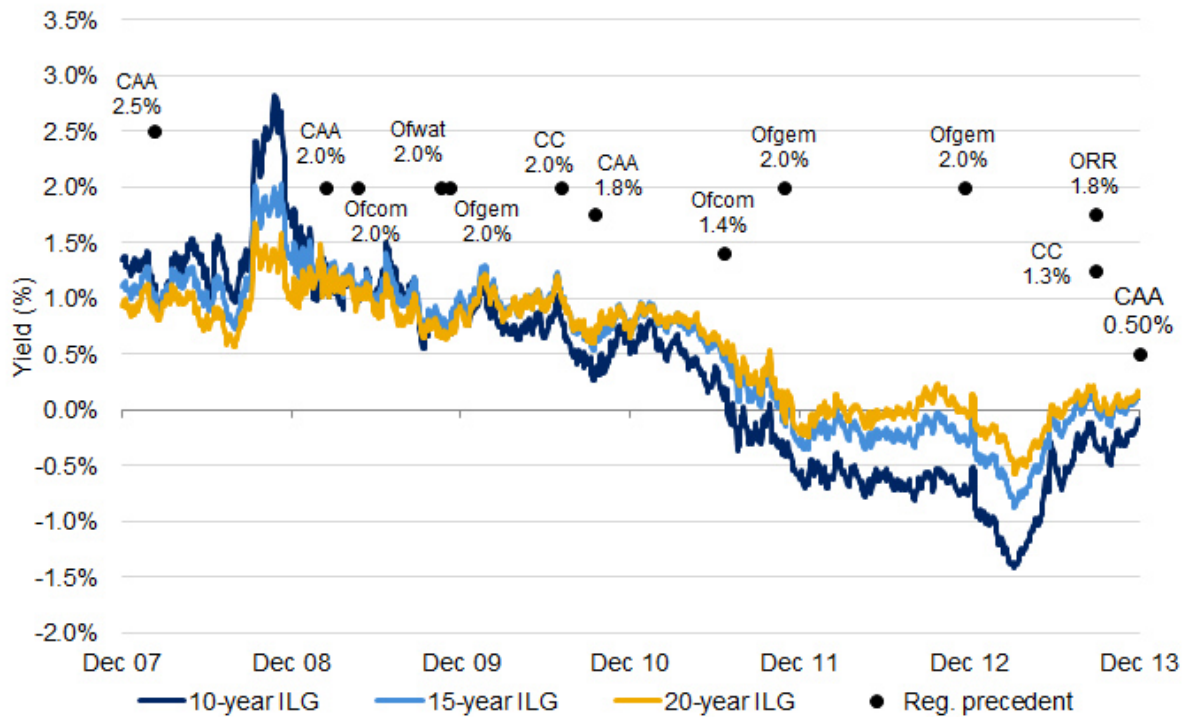
Company submissions

Companies' views on the risk-free rate ranged from 1.25% to 2.1%, with an average of 1.82% (regulatory capital value – RCV – weighted). Most companies indicated their figure was above current market rates but proposed an adjustment in order to move closer to historical norms and regulatory precedents.

Our guidance

The risk-free rate used for PR09 was 2.0%, which was set at a time of unprecedented market volatility and was higher than market yields on index-linked gilts (ILGs) of 10- to 20-year maturities at the time. Current yields on ten-year ILGs are close to zero, in part due to exceptional monetary policy. Figure 2 below shows the evolution of yields on ILGs, as well as regulatory precedents on the risk-free rate.

Figure 2 Yield on index-linked gilts and regulatory precedents on the real risk-free rate (2008-13)



Source: Bank of England, regulatory determinations.

Forward curves suggest that long-term risk-free rates are expected to rise modestly during the course of PR14 period¹².

Using current yields adjusted for forward-looking expectations, we use a range of 0.75% to 1.25% for the real risk-free rate, with a point estimate of 1.25%. By way of comparison, using a ten-year historical average of index-linked gilt yields to determine the risk-free rate, results in a similar value to that derived from an assessment of spot and forward rates¹³.

¹² The difference between the current yield on ten-year nominal Government bonds and the ten-year forward rate for September 2017 (the mid-point of the PR14 period) is around 115 bps.

¹³ The 2004-13 ten-year average of yields on ten-year index-linked gilts is 0.9%.

A1.6 Equity market risk premium (EMRP)

Company submissions

Consistent with their view on total equity returns, most companies relied on historical studies which estimate an equity market risk premium in the range 5.0% to 5.75%. Those with a higher risk premium assumption tended to be associated with a lower risk-free rate assumption.

Our guidance

Based on a real risk-free rate ranging from 0.75% to 1.25%, an EMRP of around 5.5% is required to equate to the overall 6.25% to 6.75% TMR. A figure of 5.5% is also consistent with current forward-looking estimates of the EMRP¹⁴.

A1.7 Beta

Company submissions

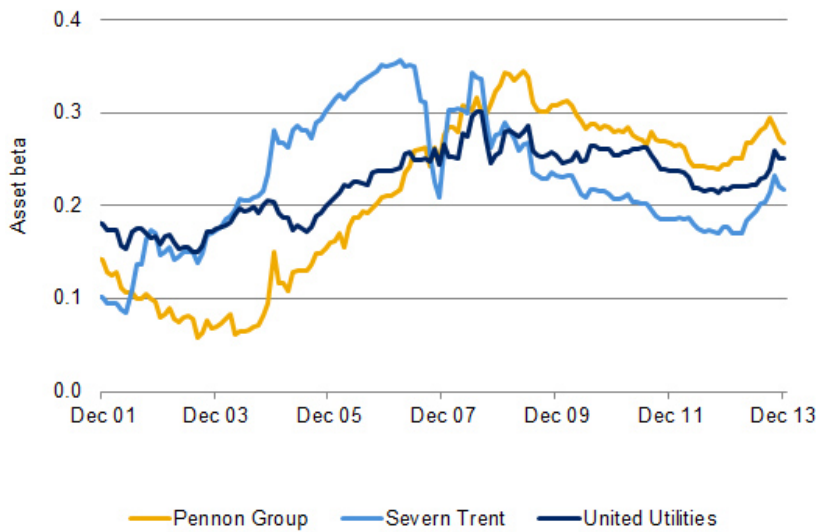
A number of companies suggested that the risk profile of the water sector has not changed fundamentally, and for this reason continue to use the 0.4 asset beta assumption which was adopted at PR09. Some companies acknowledged that the empirical data suggest betas have fallen and that the market environment in 2009 may have distorted betas. The average asset beta used by companies was 0.37.

Our guidance

The equity beta is the only input in the CAPM approach to the cost of equity that is sector specific. Since the turn of the millennium, we have observed asset beta values predominately in the 0.2 to 0.3 range (see figures 3 and 4 below).

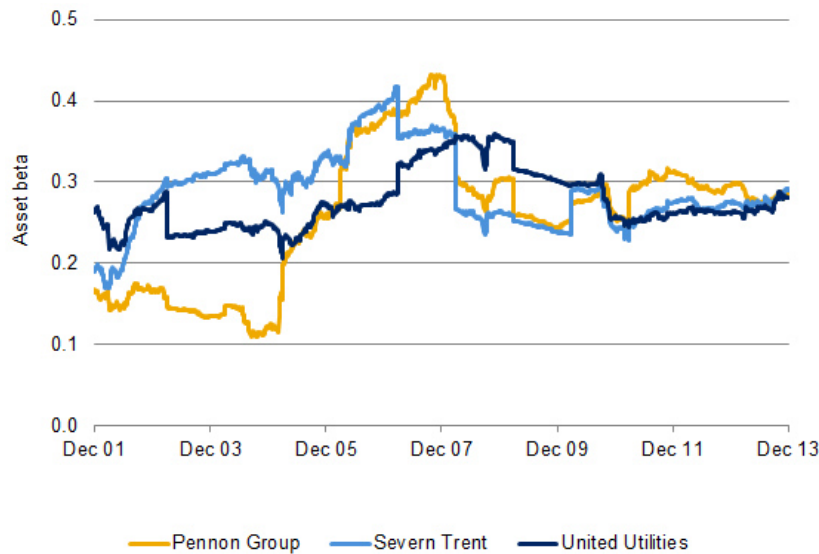
¹⁴ Fernandez (2013), 'Market Risk Premium Used in 82 Countries in 2012: A Survey with 7,192 Answers' and PwC's EMRP and PwC(2013), 'Estimating the cost of capital in Q6 for Heathrow, Gatwick and Stansted, A report prepared for the Civil Aviation Authority'.

Figure 3 Water company five-year monthly asset betas (debt beta = 0)¹⁵



Source: Datastream, Capital IQ.

Figure 4 Water company two-year daily asset betas (debt beta = 0)¹⁶



Source: Datastream, Capital IQ.

¹⁵ Five-year monthly betas are estimated on the basis of the previous 60 months' data at monthly intervals.

¹⁶ Two-year daily betas are estimated using daily trading data for the previous 521 trading days (two years). Both five-year and two-year betas are calculated using a Bayesian adjustment. This seeks to rectify the possibility of low betas being underestimated, either as a consequence of statistical or market factors.

However, we consider that relying solely on historical data for a limited number of water companies is not a perfect indicator of expected beta over the PR14 period. The data above illustrates some variation over time. Because of this, we have also considered the betas of other UK regulated utilities (National Grid and SSE), which lie in the range of 0.27 to 0.46 on a two-year measure of beta.

We consider that the past five years have revealed the strength of water company financial performance during a period of financial crisis and economic recession, and illustrated the low systematic risk of the water sector. **Therefore, we use an up-to-date empirical estimate of 0.3¹⁷ for the asset beta¹⁸.**

The resulting equity beta, using a notional gearing figure of 62.5%, is 0.8, which is marginally above current equity betas for listed water companies.

A1.8 Cost of debt

Company submissions

All companies proposed a split between embedded and new debt, although the proportion of new debt varied from 6% to 40%. For some, this was based on their actual capital structure rather than a notional structure, which in part explains the wide range.

Companies calculated the average real cost of embedded debt on the basis of their own existing financing. This ranged from 1.8% to 3.8%, indicating significant variation in debt financing costs across the sector. Some companies calculated the cost of new debt on the basis of current market rates, whereas others adjusted for an expected rise in interest rates during the course of the PR14 period.

¹⁷ In its Bristol Water determination (2010), the CC calculated an asset beta of 0.21 to 0.31 at debt beta of zero and 0.27 to 0.36 at debt beta of 0.1 for water and sewerage companies. It also estimated a rolling average of beta for utilities of 0.35 in its NIE provisional determination, based on data up to 2011. While our assessment of the asset beta is lower than the CC's estimate for utilities, it is based on more recent information and we use a larger figure for total market returns, thus leaving the overall cost of equity broadly comparable.

¹⁸ This is equivalent to a figure of 0.36 using a debt beta of 0.1, but this combination of asset beta and debt beta would have minimal impact on the overall cost of equity.

Table 5 Summary of all company business plan proposed cost of debt

WACC inputs	Company range (min)	Company range (max)	Industry average
Ratio of embedded debt to new debt	94%:6%	60%:40%	72%:28%
Cost of new debt	0.6%	3.5%	2.66%
Cost of embedded debt	1.8%	3.8%	2.70%
Allowance for debt fees ¹⁹	n/a	n/a	n/a
Overall cost of debt (excluding small company premiums)	2.3%	3.7%	2.69%

Source: Business plan submissions.

Table 6 Summary of water and sewerage company (WaSC) proposed cost of debt

WACC inputs	WaSC range (min)	WaSC range (max)	WaSC average
Ratio of embedded debt to new debt	75%:25%	60%:40%	72%:28%
Cost of new debt	2.0%	3.5%	2.67%
Cost of embedded debt	1.8%	3.3%	2.68%
Allowance for debt fees	n/a	n/a	n/a
Overall cost of debt (excluding small company premiums)	2.3%	3.1%	2.69%

Source: Business plan submissions.

¹⁹ Companies typically incorporated allowances for debt issuance fees and other related costs within their estimates of the cost of embedded and new debt, so we have not presented these separately.

Table 7 Summary of water only company (WoC) proposed cost of debt

WACC inputs	WoC range (min)	WoC range (max)	WoC average
Ratio of embedded debt to new debt	94%:6%	67%:33%	77%:23%
Cost of new debt	0.6%	2.9%	2.15%
Cost of embedded debt	3.5%	3.8%	3.60%
Allowance for debt fees ²⁰	n/a	n/a	n/a
Overall cost of debt (excluding small company premiums)	2.4%	3.7%	2.70%
Overall cost of debt (including small company premiums)	2.8%	3.7%	3.05%

Source: Business plan submissions.

Our guidance

The real cost of debt used by Ofwat at PR09 was 3.6%. Since then, yields on investment grade corporate debt have fallen significantly, suggesting a lower real cost of debt is now appropriate.

Our cost of debt analysis assumes that water companies with a notional capital structure continue to maintain an investment grade credit rating.

We will continue to use a blend of embedded debt and new debt in assessing the overall cost of debt. Most water company financing is long term in nature and current company debt finance costs are impacted by the cost of debt at the point of issue. **We consider the average split proposed by companies (72% for embedded debt and 28% for new debt issued during the PR14 period) suggests a ratio of 75%:25% is appropriate.**

²⁰ Companies typically incorporated allowances for debt issuance fees and other related costs within their estimates of the cost of embedded and new debt, so we have not presented these separately.

Our guidance – new debt issuance

We have analysed the yields on benchmark corporate debt, using Iboxx indices of A and BBB corporate debt maturities of ten or more years alongside evidence on the current yields on traded water company bonds. We calculate a current real cost of new debt ranging from 1.8% to 2.2%, with a mid-point of 2.0%, based on a long-term RPI inflation assumption of 2.8%²¹. Forward expectations indicate interest rates will increase during the PR14 period²²; **therefore, our range for the real new cost of debt over PR14 is 2.6% to 2.8%**. In our analysis, we have continued to consider Iboxx indexes of A and BBB corporate debt maturities of 10+ years, but we note our cost of debt range is consistent with a credit rating in the BBB range.

While companies have some opportunity to take advantage of current low yields, we have allowed for future increases in corporate borrowing costs and assume new borrowing is issued throughout the 2015-20 period.

Our guidance – embedded debt

We have analysed the historical yields on benchmark corporate debt, using Iboxx indices of A and BBB corporate debt maturities of ten or more years alongside evidence on the current yields on traded water company bonds. Water companies have historically outperformed credit benchmarks through a mixture of timing their debt issuances when debt markets were cheaper and by being able to issue debt at a discount to the blended A/BBB benchmark rate²³. **We calculate a range for the real cost of embedded debt of 2.6% to 2.8%**²⁴, with water company issuance towards the lower end of this range. As water companies bear the risk relating to the timing and cost of debt issuance, we do not consider it appropriate to focus solely on these water sector benchmarks. So, we place more emphasis on the figures at the

²¹ Iboxx indices of A and BBB rated corporate debt of maturities of 10+ years suggest a current nominal cost of debt of approximately 4.6% to 5.0%.

²² We note there is unlikely to be a one-to-one relation between movements in the risk-free rate and the cost of debt as we would expect the impact of the unwinding of Quantitative Easing and Flight to Quality effects to be different on gilts compared with corporate bonds. Our analysis suggests such a movement in gilts could be associated with an uplift of around 60 bps to the cost of A/BBB rated corporate debt.

²³ We do not consider uplift is warranted for the cost of liquidity facilities, as this can be offset by the low cost of short-term floating debt, which we have not included in our assessment.

²⁴ Long-term (ten-year) average cost of debt based on indices for A and BBB rated debt ranges from 5.4% to 5.9%. When adjusted for RPI inflation of 2.8%, this suggests a real cost of embedded debt of 2.8%. The average yield across 10-15 and 15+ year water company bond issuances from 2000 to present is approximately 5.0%. Adjusting the YTM at issuance of 5.0% for RPI inflation of 2.8% results in a real cost of embedded debt of 2.2%. However, because not all companies were able to outperform we consider that using the range 2.6-2.8% is appropriate.

top end of the range which are drawn from broader corporate credit benchmarks consistent with water companies bearing performance risk.

Our guidance – overall cost of debt

Assuming a split of embedded and new debt costs of 75:25, we calculate a real, pre-tax cost of debt ranging from 2.2% to 2.8% for water companies. We add an uplift of 0.1 percentage points for amortised issuance costs to arrive at a range of 2.3% to 2.9% for the real cost of debt. The top end of this range is better aligned to the benchmark credit ratings consistent with a notionally financed water company, and we therefore consider it appropriate to reduce the range around the overall cost of debt to 2.7% to 2.9%.

We use a point estimate of the real cost of debt of 2.75%, which takes account of part of the historical outperformance of debt benchmarks by water companies and recent increases in expected future rates, and is close to the average industry view of 2.69%.

We also note that this cost of debt figure of 2.75% is close to, but slightly higher than, the cost of debt figure produced by Ofgem's debt indexation approach, which uses ten-year trailing average of the deflated Iboxx indices. The Ofgem figure is currently around 2.7%, but is expected to fall in the near term as current real yields remain significantly below the trailing average.

A1.9 Company-specific adjustments

The only company-specific adjustments were proposed by the water only companies. These incorporated uplifts for both size effects and the impact of providing water only services. Companies suggested increases to both the cost of equity and the cost of debt.

None of the water only companies quantified either the benefit to customers arising from their smaller size or focus or from additional regulatory comparators.

To justify a company-specific uplift in the WACC, companies will need to demonstrate both that they face a higher cost to raising finance and that there is an offsetting benefit to customers. Those proposing company-specific uplifts have advanced arguments as to why raising finance is more costly, but we have not seen any evidence regarding offsetting benefits. Without evidence of customer benefits, we are not willing to accept an increase to customer bills for the water only companies. Any pre-qualifying companies who wish to seek an adjustment to the WACC will be invited to provide this evidence. Companies that do not pre-qualify may provide this evidence as part of the standard or resubmission process.

A1.10 Financeability

As set out in A1.11 below, our proposed appointee WACC is significantly lower than the industry average proposed in company business plan submissions. This will have an impact on the credit metrics within business plans. We continue to expect companies to provide evidence that they are able to finance their activities. This may require them to use the new tools provided as part of the PR14 methodology, including the 'pay-as-you-go' (PAYG) ratio and RCV run-off rates. These provide considerable flexibility for companies to manage their financeability both within the PR14 period and beyond 2020.

A1.11 Overall appointee WACC

Table 8 below sets out our view of appointee WACC compared with the proposals put forward in company business plans. This shows the biggest area of difference is the cost of equity. There are two key areas of difference in the underlying calculations:

- the TMR; and
- asset beta assumptions.

These two areas collectively mean that our cost of equity assumption is 0.9% lower than the average of company proposals.

Table 8 Comparison of views on appointee WACC

WACC inputs	Ofwat (point estimate)	Ofwat (range)	Industry average	Industry range
Total equity market return	6.75%	6.25% to 6.75%	7.01%	6.50% to 7.25%
Real risk-free rate	1.25%	0.75% to 1.25%	1.82%	1.25% to 2.1%
Equity market risk premium	5.5%	5.5%	5.19%	5.0% to 5.75%
Gearing (Net debt:RCV)	62.5%	60% to 62.5%	61.1%	57% to 70%
Asset beta	0.3	0.3	0.37	0.33 to 0.40
Equity beta	0.8	0.75 to 0.80	0.93	0.84 to 1.07
Cost of equity (post-tax)	5.65%	4.9% to 5.7%	6.6%	6.0% to 7.9%
Ratio of embedded debt to new debt	75%:25%	75%:25%	72%:28%	94%:6% to 60%:40%
Cost of new debt	2.65%	2.6% to 2.8%	2.66%	0.6% to 3.5%
Cost of embedded debt	2.65%	2.6% to 2.8%	2.70%	1.8% to 3.8%
Allowance for debt fees	0.1%	0.1%	n/a	n/a
Overall cost of debt	2.75%	2.7% to 2.9%	2.69%	2.3% to 3.6%
Appointee (vanilla) WACC	3.85%	3.6% to 3.9%	4.3%	4.1% to 4.9%

Note: The figures for cost of equity, and appointee vanilla WACC for companies represent company submissions and are not calculated with the inputs in the table.

Consistent with the evidence set out above, we propose an appointee WACC toward the upper end of range for our pre-qualification guidance of 3.85%.

Appendix 2: Retail level assessment

A2.1 Approach

The retail net margin is intended to remunerate the capital employed and the risks companies bear in providing retail services.

There are no plans to open the household market to competition and these customers will be unable to switch supplier. However, from 2017, the non-household retail market will become contestable in England. During the first two years of the price control the non-household market will be limited to those customers consuming more than 5 million litres of water (Ml) a year in England or 50Ml of water a year in Wales. The progressive introduction of competition over the period has an important bearing on the level of retail margin that would be appropriate. The Welsh Government has decided that choice should not be extended beyond the current level for non-household customers served by companies operating wholly or mainly in Wales. This policy decision requires a different approach to setting retail margins for companies that operate wholly or mainly in Wales.

This has implications for the setting of prices: in the non-household market in England, rather than relying on regulation to protect customers, competition and rivalry among suppliers should drive prices down and/or lead to improvements in customer service. Market opening also provides efficient companies with an opportunity to attract new customers and increase their market share and so earn higher returns.

The regulation of non-household retail profit margin provides a backstop. We would expect any excessive margin would be quickly driven out through attracting competition from both new entrants and existing suppliers. Also, if the margin is too low there may be an adverse impact on non-price competition – for example, in terms of delivering improved services and other innovations over the long term. Conversely, in setting the retail margin in the non-household segment, we also need to recognise that there is a two-year lag between price limits coming into effect and the introduction of competition.

We use two main approaches in assessing an appropriate retail net margin.

1. **Benchmarking** – an assessment of comparator retail margins in sectors which exhibit similar characteristics and levels of risk.
2. **Return on capital analysis** – a cross-check of the amount of margin required to finance retail assets and working capital.

Benchmarking is useful in understanding the level of retail margin that provides a return on capital employed and also reflects specific retail risks. Given there are different risk characteristics for household and non-household segments, the appropriate comparators will also be different.

In the household retail segment, and also the non-household retail segment for companies operating wholly or mainly in Wales, we consider that regulatory determinations are the most suitable benchmarks, as these correspond to regulated monopoly markets. In the non-household segment in England, comparators in unregulated markets are more suitable as we move to a competitive basis in this segment.

The return on capital analysis is used as a cross-check of the margin required to finance retail assets and working capital. It may omit the full amount of retail capital employed and may not fully compensate efficient companies for retail risks. Therefore, this approach is used only to check that the margins indicated in the benchmarking are not too low. On the other hand, it may be that current monopoly retailers are not an efficient benchmark for working capital requirements and so the test may overstate the required margin.

In this appendix, we present companies' views on the household and non-household net margins, which were broadly in line with our views. We set out our views on the strength of evidence that the companies put forward and provide guidance on the retail returns we consider appropriate.

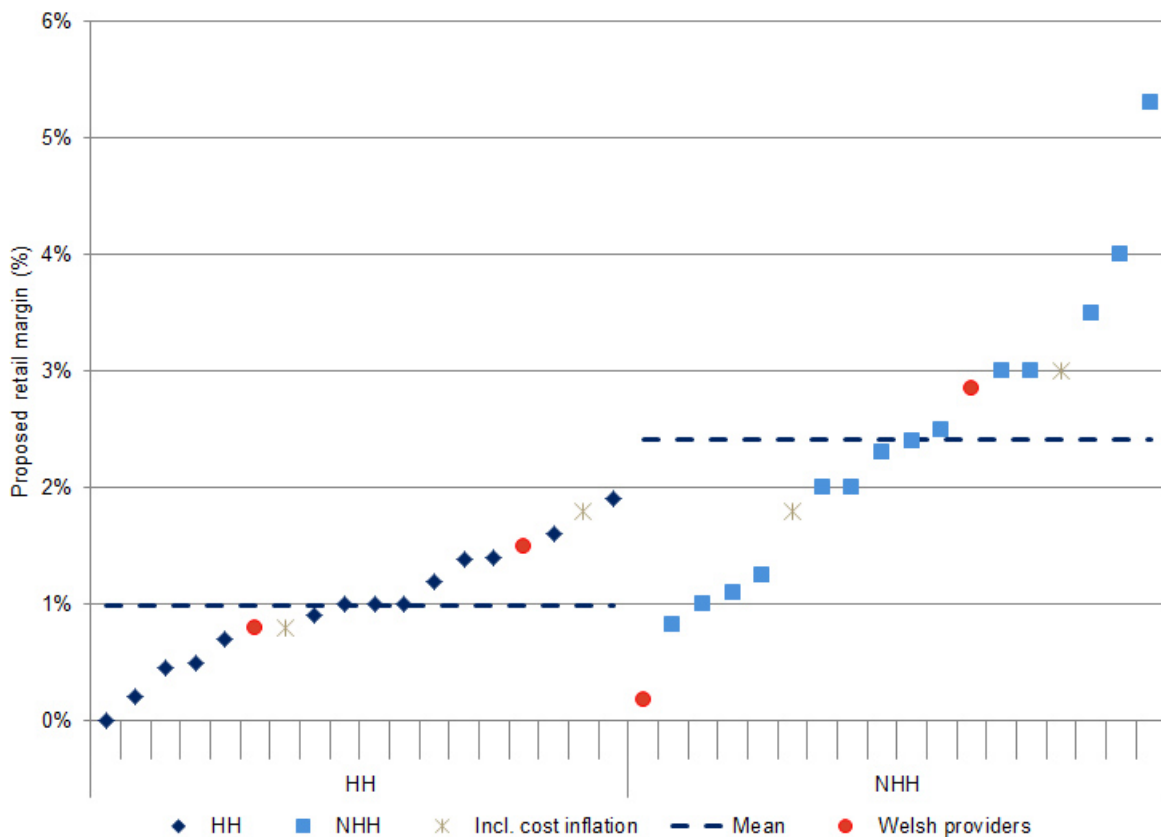
A2.2 Company submissions

In their business plan submissions, companies proposed household net margins in the range of 0% to 1.9% and non-household margins of 0.2% to 5.3%. The Welsh companies (Dŵr Cymru and Dee Valley Water) proposed household margins ranged from 0.79% to 1.5% and non-household margins ranged from 0.19% and 1.5% (excluding allowances for input price pressures).

Most companies adopted a benchmarking approach in their business plan submissions. They draw on regulatory precedents to support their proposed household retail net margin and benchmark company financial data to support non-household retail net margins. Several companies included allowances to cover increases in the costs of retail activities or increases in doubtful debt costs.

Companies' proposals are summarised figure 5 below. Mean values are also indicated in the figure (marked with dashed lines), along with company proposals, which include an additional allowance for cost inflation (marked with crosses).

Figure 5 Comparison of retail margins in company business plans



Source: Ofwat analysis of business plan submissions.

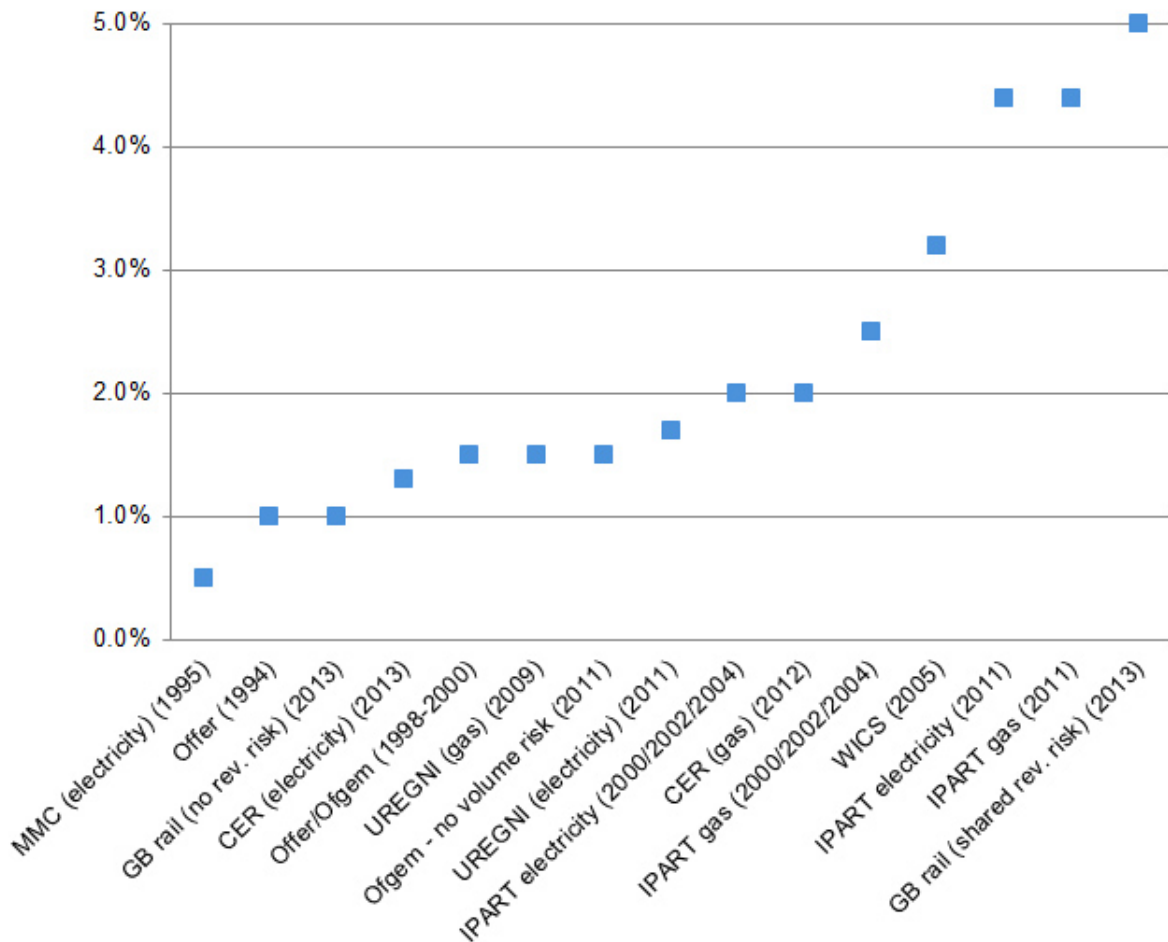
A2.3 Evidence on benchmark margins

Most companies supplied information on retail net margins using benchmarks drawn from regulatory determinations and company financial performance. The former were used to benchmark household margins and the latter to benchmark non-household margins.

Household retail – benchmarking evidence

Figure 6 below presents the range of benchmarks identified by companies, their advisors and our advisor, PwC²⁵.

Figure 6 Household retail margins – comparison of proposed benchmarks



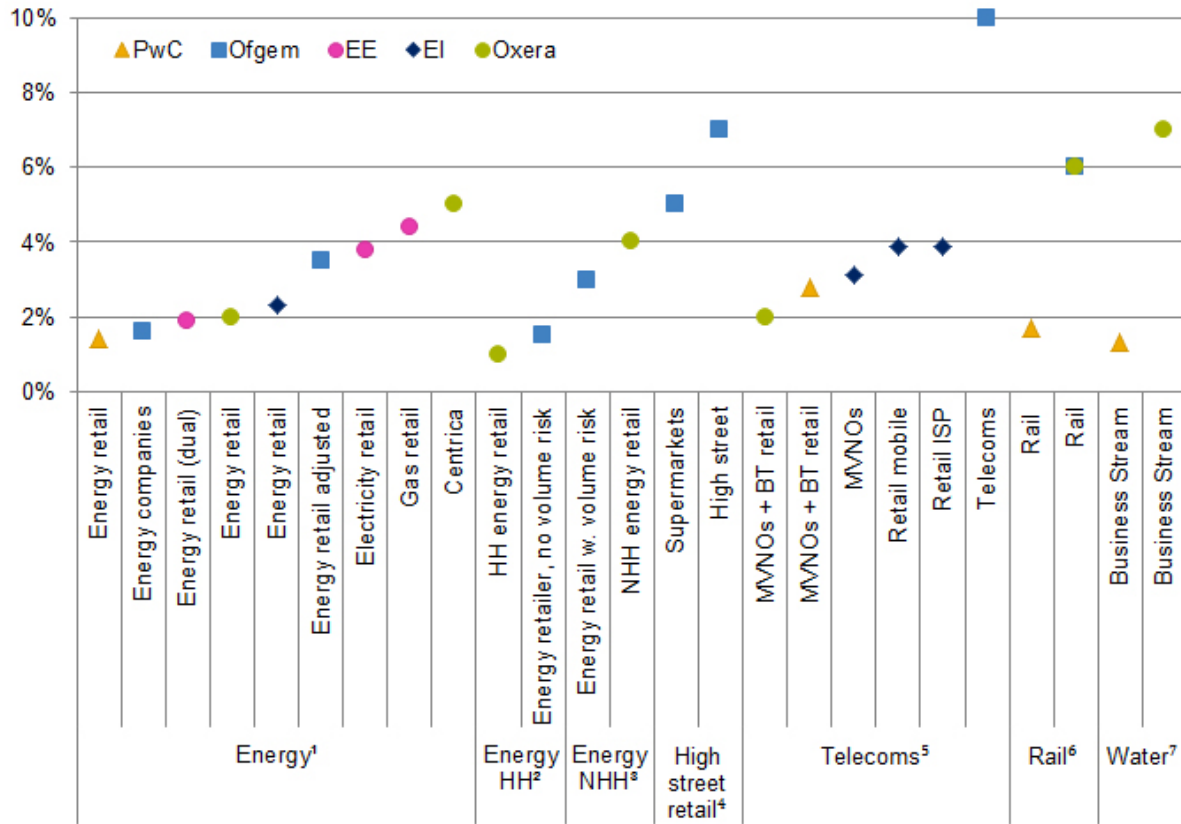
Source: Business plan submissions, PwC.

Non-household retail England – benchmarking evidence

Figure 7 below sets out the precedents referred to by companies, their advisors and our advisor PwC for the non-household retail segment in England. These draw upon financial analysis of accounts in competitive retail sectors, rather than regulatory determinations.

²⁵ 'Water retail net margins: A report prepared for Ofwat', PwC, January 2014.

Figure 7 Non-household retail margins – comparison of proposed benchmarks



Notes:

1. Figures from Europe Economics are based on Ofgem’s weekly Supply Market Indicators for the retail electricity and gas supply industry in GB.
2. Oxera figure based on household customers.
3. Oxera figure based on non-household customers.
4. Based on Ofgem’s analysis of 2010 figures.
5. MVNOs are likely to provide a more appropriate benchmark than integrated mobile operators as they are asset light. Ofgem figure based on only one year of data, and returns for any single year can be volatile for this industry in any given year.
6. Oxera sample based on a larger number of rail franchises.
7. PwC figure for Business Stream based on whole value chain turnover. Using only retail turnover would produce a figure closer to that of Oxera’s.

Source: Company submissions, PwC analysis, Ofgem 2011, ‘Retail Market Review, Appendix 9’, <https://www.ofgem.gov.uk/ofgem-publications/39709/mrapendices.pdf>.

A2.4 Our review of evidence

Household retail margins

Our assessment of appropriate household retail net margins relies primarily on benchmarking regulatory determinations. The regulatory benchmarks provide a better guide to margins, as they relate to determinations with little or no competition. The Water Industry Commission for Scotland (WICS) comparator is for non-household activities, so it is not appropriate for determining a household retail net margin. Therefore, these regulatory determinations suggest a range of 0.5% to 2.0% for households (and non-households below 50MI in Wales). We would expect water retailing in the household segment to be at the lower end of this range, because of simpler retailing processes, less price volatility and less risk to manage than the non-household segment. This is consistent with the advice received from our advisor, PwC.

Non-household retail margins

Our assessment of appropriate household retail returns relies primarily on benchmarking company financial information from competitive retail comparators. This is because of the additional risks in this segment relating to the introduction of competition. This is consistent with energy retailers (in particular the 'Big Six', which are required by Ofgem to submit segmental accounts), where there is a difference between the household retail net margin and the non-household equivalent figure of approximately 0.5%. This suggests that the lower end of the acceptable range for non-household customers should be higher than household customers.

The 2005 WICS determination for Business Stream activities provides a comparator from a water market opening to competition, averaging at a 3.2% margin. This determination applied during the 2006-10 period, with Scottish market opening in 2008, making it very relevant to English market. But there are considerable differences between water retailing in Scotland and England – in particular, working capital requirements for water companies in England are likely to be lower, so the net retail margin in England should be below the 3.2% figure.

Some retailers in competitive markets achieve higher margins (for example BT Retail and Centrica in figure 7 above), and there is the consideration of providing efficient headroom for competitive entry. For this reason, we have set the top end of the acceptable range for non-household retail net margins to 4.0%, although actual realised margins, across the sector, are likely to fall below this level.

By focusing on the non-household water retail market in Scotland, the UK energy retail sector and mobile virtual network operators (MVNOs), we conclude an appropriate benchmark margin in the non-household retail control is between 1% and 4%. This is consistent with PwC's advice.

Return on capital 'cross-check'

The return on capital cross-check provides additional evidence to inform our view. PwC calculated the return on retail assets and cost of funding working capital. This approach is similar to the RCV approach to remunerate capital employed in the wholesale business. A return on capital approach is less suited to retail activities which are 'asset light' and may not fully compensate the retail business for all sources of capital and risks. It does not take account of other factors such as differences in risk between household and non-household markets. The cross-check calculation is set out in PwC's report, and summarised here.

PwC obtained retail asset and working capital information from PR14 company business plans. (This information has been used without adjustment, and will be subject to continued review as part of the RBR.) Therefore, it may not represent an efficient provider. In order to assess the margin requirement for retail assets, PwC used a cost of capital based on the Ofwat appointee WACC²⁶ (converted into nominal pre-tax terms to use with assets measured at historic cost), multiplied it by average capital employed over the period 2015-20 and divided by industry-wide average sales to produce an equivalent average industry-wide EBIT margin (represented as an EBIT margin on sales).

PwC created a range for the retail net margin in the cross-check. The top of the range applies the business cost of capital to all working capital, whereas the bottom of the range uses a short-term debt funding cost.

As Table 9 shows, the equivalent margins earned on the retail assets and retail working capital range is approximately 0.6% for household retail activities and 0.6% for non-household retail.

²⁶ The appropriate cost of capital for a water retail business is likely to be different to a water wholesale business, and we would expect the cost of capital to be different for the non-household and household business. But since this cross-check is providing a minimum check, PwC does not calculate a separate retail business cost of capital.

Table 9 Retail margin estimates based on return on capital analysis

2015-20 averages	Household retail (and non-household retail in Wales)	Non-household retail
NBV of retail assets (£m)	428	56
Working capital (£m)	563	333
Total capital employed (£m)	991	388
Nominal WACC (pre-tax) (%)	7.6%	7.6%
Short-term borrowing rate (%)	3.2%	3.2%
Cost of capital (£m)	50 to 75	15 to 29
Industry average turnover (£m)	8,523	2,671
Retail net margin (%)	0.59% to 0.88%	0.55% to 1.10%

Source: Business plan submissions, PwC analysis.

A2.5 Summary of retail margins

Table 10 below sets out the summary evidence on appropriate retail margins.

Table 10 Summary of evidence on retail net margins

	Household retail (and non-household retail in Wales)	Non-household retail
Benchmarking	0.5% to 2.0%	1.0% to 4.0%
Return on capital	0.5% to 0.9%	0.6% to 1.1%

Source: Ofwat, Business plan submissions, PwC analysis.

A2.6 Guidance

We place most weight on the benchmarking analysis, because the return on capital approach is unlikely to allow for all capital employed, nor for all retail specific risks in an asset-light business. The data underlying the calculations is also subject to review in the RBR and so may be subject to change. However, the benchmarks identified are not perfect comparators and there are good reasons to suggest many of the

benchmark margins should be adjusted to better reflect the economics of the water retail segments.

For household retail activities as well as non-household retailing in Wales, we consider there to be valid reasons for selecting a figure towards the bottom end of the benchmark range. This is because:

- household retail activities remain a service that monopoly suppliers provide;
- the degree of risks in retailing water and wastewater are likely to be lower than other utility services, which are exposed to greater price variability; and
- the required return on retail assets will be below a normal level during the price control period because the retail fixed asset base is starting from zero.

We have selected a figure of 1% for the household retail net margin.

In the context of setting the non-household retail margin, similar considerations – for example, fixed assets – will only be built up in the retail business over time. We also need to consider whether the allowed net margin contained in default tariffs provides an adequate incentive for companies to apply competitive pressure from 2017 (and the long-term benefits this will provide customers). For this reason, we consider a point estimate in the centre of the appropriate benchmark range is more appropriate. **This provides a figure of 2.5% for non-household margins, which is slightly above the average figure contained in company submissions and in the middle of the PwC comparator range.**

Our views of the appropriate net margins for household and non-household retail controls for the purpose of issuing pre-guidance are summarised in table 11 below.

Table 11 Retail net margins for the purpose of pre-qualification guidance

	Net margin
Household retail (and non-household retail in Wales below 50MI)	1.0%
Non-household retail in England	2.5%

Source: Ofwat.

Appendix 3: Wholesale level assessment

A3.1 Approach

To calculate the wholesale return, it is appropriate to make a deduction from the appointee WACC, which takes account of the retail net margin. This is because the retail net margin is a component of overall returns. Without making this deduction, we would be rewarding water companies' retail businesses twice (once in the retail margin and once in the WACC at the appointee level). We recognise that competition will introduce new risks to the non-household price control in England from 2017 and so the margin that compensates for this risk should not be deducted.

A3.2 Company submissions

Seven companies (four water and sewerage companies and three water only companies) assessed wholesale WACC. These companies either made adjustments from appointee level WACC inputs, or made distinct estimates of the cost of capital of the wholesale business.

The other 11 companies did not recognise a distinction between the WACC-based return they were proposing for just their wholesale business and the appointee level inputs they used to calculate this. They appear to have remunerated investors twice for the retail business.

A3.3 Guidance

There are two main considerations in allocating overall appointee returns between wholesale controls and retail controls: the first relates to capital employed, the second to risks.

With regard to capital employed, at the outset of the control period, existing fixed assets used in providing retail activities will remain within the wholesale RCV. Over time, the retail business will build up its own assets and legacy retail assets in the wholesale RCV will be depreciated away, with the result that the wholesale RCV will reflect wholesale assets more accurately. As a consequence, it will be less important to deduct retail margins from appointee WACC in future price controls.

With regard to risk, a number have been allocated to retail controls, such as managing retail bad debts and operating customer contact centres. This allocation has reduced the risks in the wholesale element of the business to below that of the appointee. As a consequence, the wholesale WACC should be permanently lower than the appointee WACC.

We consider that the household retail price control has not introduced significant new risks. As a result, this margin reflects a transfer of capital and risk from the wholesale control and should be deducted in its entirety.

The introduction of competition into the non-household market from 2017 in England (though not in Wales) means that the non-household retail business will face some new competition risks. While we expect the introduction of competition to provide enhanced efficiency incentives and to unlock new forms of retailing innovation, we think that the competitive risks should be reflected in a higher non-household retail margin (see appendix 2). We consider that it would be inappropriate to deduct this additional risk (namely, the difference between the allowed margin for the non-households and households²⁷) from the appointee WACC.

In order to convert the appointee WACC to a wholesale allowed return, we use the point estimates of retail net margin set out above, which we express as an equivalent portion of the RCV and deduct from the total allowed return. As a result, the appointee allowed return will exceed the appointee WACC by approximately 8 basis points on average.

Table 12 below sets out the calculations, which are carried out at an industry-wide level. The retail household margin of 1 % applied across the combined retail controls is equivalent to 0.17% on the existing RCV. As this figure will be applied to the wholesale RCV in future and not include new retail assets, we reduce the discount to 0.15%, thereby reducing the total allowed return from 3.85% to 3.70% for wholesale activities.

²⁷ We estimate that the additional non-household margin to be 1.5% (a total margin of 2.5% less the 1.0% allowed for the household business).

Table 12 Adjustment to appointee level vanilla WACC

Component		Point estimate
Total allowed return	A	3.85%
Retail net margin	B	1.00%
Revenue requirement (2015-20 year average)	C	£11,194 m
RCV (2015-20 year average)	D	£64,912 m
Retail return on RCV	$E = B \cdot C / D$	0.17%
Adjustment from appointee to wholesale WACC	F	0.15%
Wholesale WACC	$G = A - F$	3.70%

Source: Ofwat calculations²⁸.

²⁸ This calculation is based on the aggregate revenue requirement as put forward in companies' business plans and has not been revised by Ofwat for the purpose of this calculation.

Appendix 4: Outperformance and ODIs

A4.1 Approach

An effective package of rewards and penalties will benefit customers by providing meaningful incentives to encourage the best service. The most effective incentives link financial returns to company performance and consumer experience. We consider that good management teams should not be rewarded solely on the basis of allowed WACC and retail margins, but should also have the opportunity to earn additional rewards by being more efficient or by delivering higher levels of performance where this is valued by consumers.

The risk and reward proposals in companies' business plans currently provide little incentive for outperformance and consequently depend on higher WACCs to provide investors' returns. This means that the balance of risk and reward is not sufficiently aligned with the best interests of customers. This has been an issue in previous price controls. As the review of Ofwat and consumer representation in the water sector (the 'Gray review') noted in regard to PR09:

“...there is also some evidence that the system of incentives applied by Ofwat may be too focussed on penalties and compliance as opposed to positive incentives for desired changes of behaviour.”²⁹

Our PR14 methodology incentivises companies to outperform against:

- **cost efficiency thresholds** – where management teams find new or more cost-efficient ways of delivering services to customers they will be allowed to share this outperformance with their customers;
- **companies' own performance commitments and ODI targets** – where management teams deliver an outcome, which is supported by customer engagement, to a higher level of satisfaction for customers it should be possible for them to earn additional returns;
- **other companies** – in particular, the service incentive mechanism (SIM) uses a relative measure of performance to assign rankings and rewards; and
- **financing outperformance** – companies can outperform or underperform against their allowed cost of capital.

²⁹ Defra (2011), 'Review of Ofwat and consumer representation in the water sector', https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69442/ofwat-review-2011.pdf

Good companies should be expecting to seek out cost efficiencies and to exceed total expenditure (totex) efficiency targets. The arrangements that we are introducing to the water sector are very similar to those in place in energy under the RIIO price controls. Ofgem has moved to setting a totex target and other incentives. Energy network providers have responded by seeking out efficiencies and outperforming price controls. Customers benefit from outperformance because this approach to regulation reveals important information to customers and the regulator to consider when setting future price controls. In our methodology statement, we provided a framework for developing ODIs. Companies should revise ODIs consistent with this framework.

We are proposing a single industry WACC. For reasons of consistency, this requires a similar scale of incentives across the sector. As established in our methodology, this means that we need to calibrate the incentive packages that companies put forward during the price review process. The alternative would be to allow differential costs of capital to compensate for any difference in non-diversifiable risk associated with different incentive arrangements, which could have unintended consequences for customers and lead to higher prices over time.

The customer engagement that has been carried out within the sector has been very valuable. In reviewing the business plans so far, we have seen some exceptional examples. We recognise the important role of the customer challenge groups (CCGs) in reviewing and challenging this engagement with customers and wider stakeholders. In respect of risk and reward, it is important that customers understand the consequences of individual decisions – for example, in the calibration of an overall risk and reward package.

In calibrating the risk and reward package, it will be important to ensure the package takes account of customers' preferences and that customer engagement and legitimacy is delivered by companies. It is for the Boards of water companies to determine at this stage what additional engagement with customers and involvement of CCGs, if any, is needed to shape their overall package of risk and reward to be consistent with these guidelines.

A4.2 Company submissions on risk, reward and outperformance

In their business plan submissions, companies provided information on the level of risk, reward and the potential level of outperformance. They submitted information on the possible range of financial outcomes from their business plan incentive proposals – including the range for return on regulated equity (RoRE) – under a number of scenarios.

Figure 8 below illustrates expected RoRE variation for companies split into the areas of incentive outperformance:

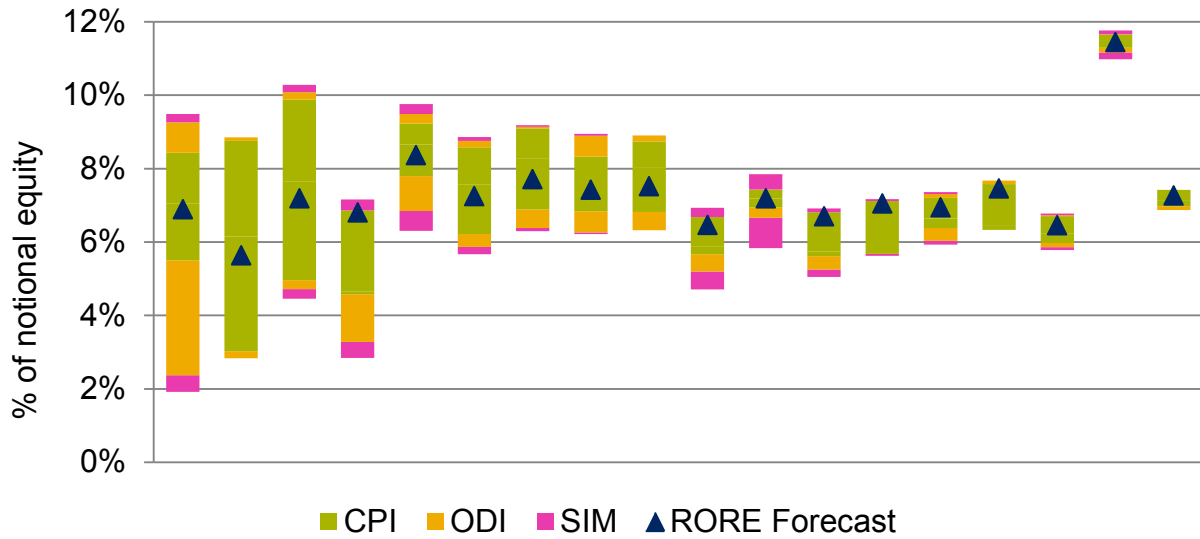
- cost performance incentives;
- ODIs; and
- SIM.

The high case (blocks above the base case forecast RoRE) is based on the company view of its P90 outcomes³⁰. The low case (blocks below the base case RoRE) is based on the P10 outcome. There were a number of complications with business plan submissions on RoRE ranges. We have clarified data submissions with all companies, but we are aware that anomalies remain in some instances. So, we have provided the information on an anonymised basis.

The figure illustrates the significant variation in expected RoRE range from +2.5% to -5.0% for one company to less than $\pm 0.5\%$ for some companies. The composition of the variance also varies widely between companies, with some expecting significant scope for cost performance variation and others expecting significant ODI variance. We expect some variance in anticipated cost outperformance mainly as a result of uncertainty about the efficiency benchmark and menus. The variance on ODIs reflects the differing approach to financial ODIs between companies.

³⁰ The P90 and P10 are points on a risk distribution. The P90 points means there is only a 10% expected chance that the outturn RoRE will be above the threshold provided.

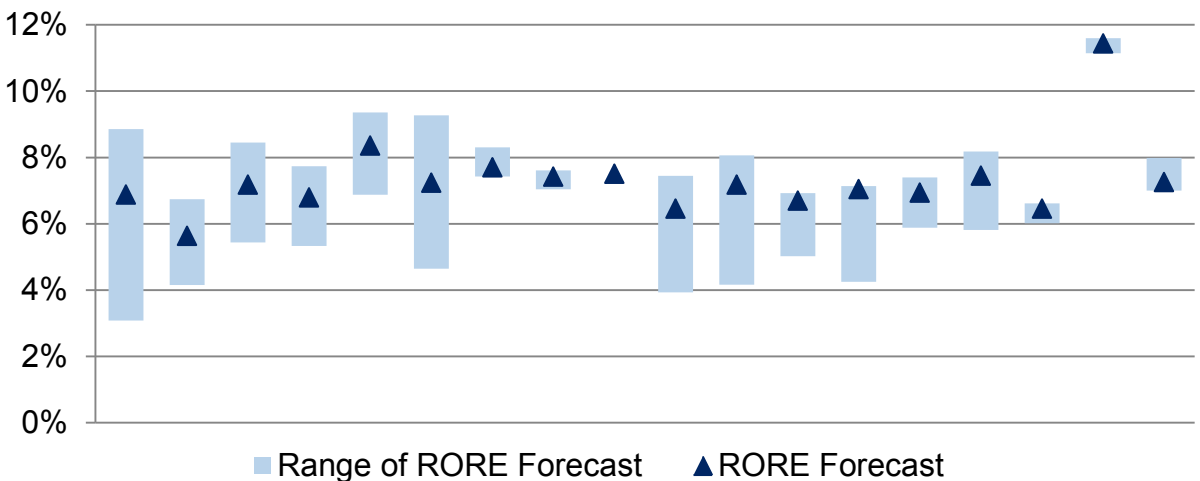
Figure 8 RoRE range by source



Source: Company business plans.

There is likely to be some interaction between different incentives – for example, between cost performance and ODIs. We asked companies to provide an expected RoRE range for an overall scenario which takes accounts of these interactions. This net range is set out in figure 9 below, in which company information is set out in the same order as for figure 10. This illustrates that companies’ expectations about interaction of incentives vary widely, with some companies anticipating most variance to be offset and other companies expecting considerable variation.

Figure 9 Overall RoRE range



Source: Company business plans.

The overall RoRE range varies from +2.0% to -3.5% to less than $\pm 0.5\%$. Based on the information supplied, the total potential upside is modest for all companies, and very little for many companies. In general, financial incentives are also significantly negatively skewed; that is, potential penalties are greater than potential rewards, particularly for ODI incentive payments. The relatively small impact attributed to incentive rewards/penalties suggests that companies have allowed relatively little scope for cost and ODI outperformance or underperformance in their business plans. As noted above, this range was calibrated on a P10 and P90 basis, which is designed to cover approximately 80% of likely outcomes. So, there may be more extreme outcomes outside this range, and other residual risks that are not captured in the analysis.

A4.3 Guidance

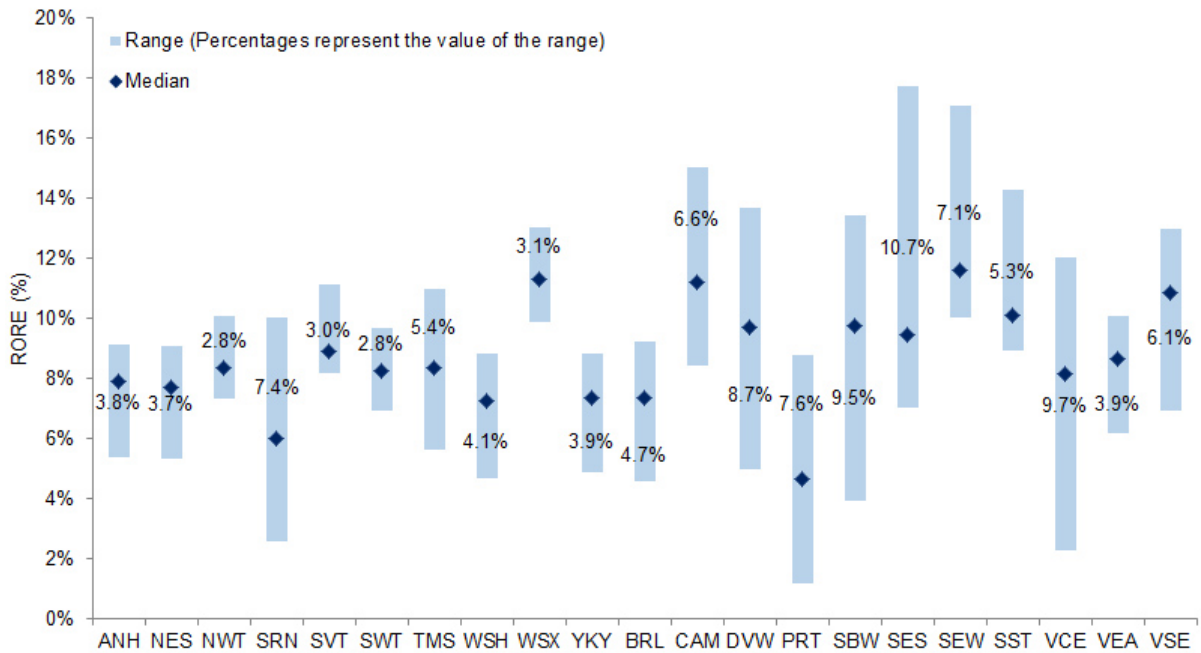
In order to calibrate our view about the appropriate package of rewards and penalties, we have considered:

- evidence of historical performance in the water sector;
- regulatory benchmarks from Ofgem RIIO price controls; and
- wider market evidence.

A4.4 Experience in water sector

Figure 10 below sets out the historical RoRE range for each company, based on the difference between highest and lowest return between 2001-02 and 2012-13. Since the start of PR09, the magnitude of the RoRE range varies from 2.8% to 10.7%. The average has been around 5.5%.

Figure 10 RoRE ranges (difference between the highest observed RoRE and the lowest) from 2001-02 to 2012-13

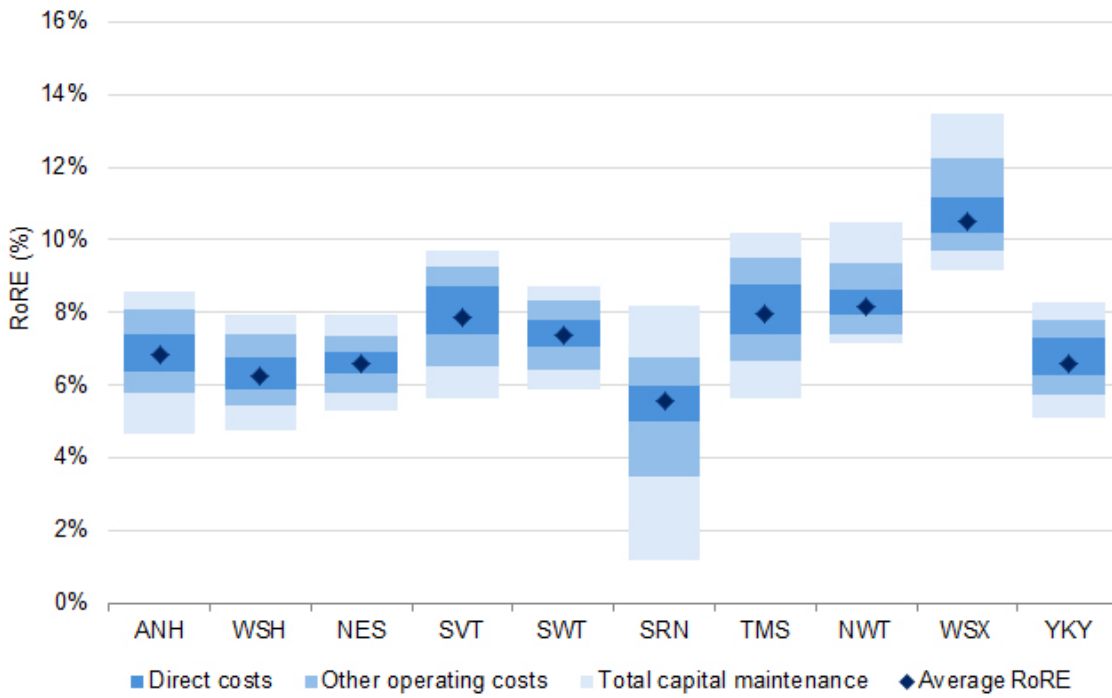


Source: Ofwat analysis of June returns data.

Cost performance

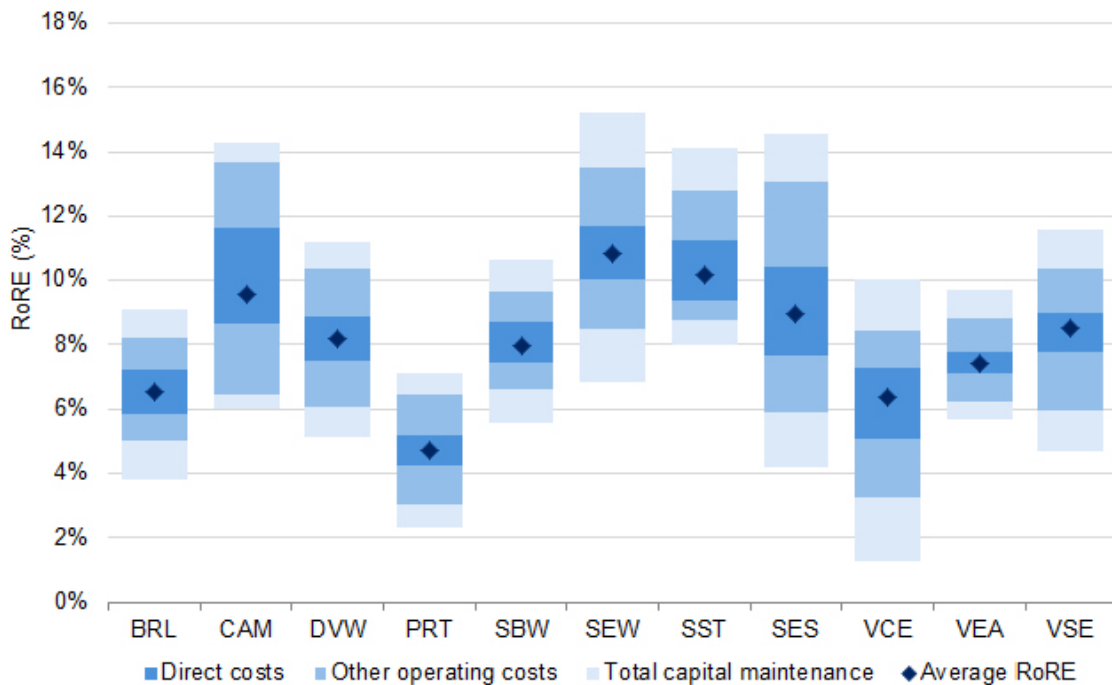
To inform our view about the potential scope for cost performance at PR14, we have reviewed the impact of historical variation across different cost categories on RoRE (this excludes the impact of finance costs, revenue effects, RPI and risk mechanisms). This is shown in figure 11 for WaSCs and 12 for WoCs.

Figure 11 Impact of cost risk on RoRE (WaSCs)



Source: Company accounts.

Figure 12 Impact of cost risk (WoCs)



Source: Company accounts.

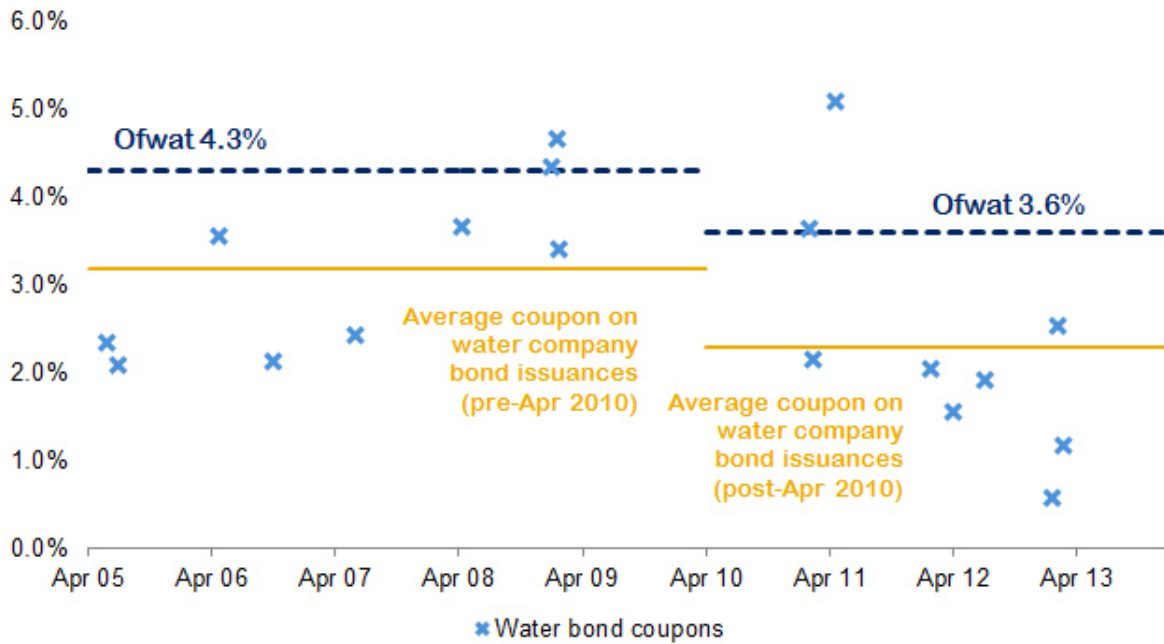
The move to totex is anticipated to open up scope for one-off improvements in cost efficiency. By providing companies with a totex target, they will be able to optimise across capital and operating expenditure. This would suggest the scope for cost outperformance may exceed recent experience. We note that National Grid is expecting to outperform its totex target and deliver a strong reward to investors³¹. While there is considerable variation between companies, historical experience suggests that future cost performance could contribute around $\pm 2\%$ of the RoRE range.

Financing outperformance

Companies can also make gains by outperforming the allowed cost of capital. This includes outperforming the expected cost of debt. For example, a company may borrow at a level lower than our allowed cost of debt. We have calculated the cost of debt outperformance at PR09 based on the replacing the new debt assumption used in the PR09 cost of debt (4.2%) with the average cost of debt (based on the real coupons on water company bonds) that companies have actually experienced at PR09 (around 2.25%). This results in an overall cost of debt of 3.1% rather than 3.6% for water and sewerage companies and an average RoRE across the sector that is 0.6% higher using the actual cost of debt than the notional cost of debt. Figure 13 below shows the average cost of debt issued by companies in the period against the cost of debt allowed by Ofwat at PR09.

³¹ We note that National Grid has responded positively to the RIIO price controls, which include totex incentive mechanisms. In its 2013-14 interim report it suggests “it expects to deliver a strong totex incentive performance alongside positive performance on traditional incentives” Source: National Grid plc, ‘Half year report for the six months ended 30 September 2013’.

Figure 13 Cost of debt outperformance



Note: Nominal coupon rates have been converted into real figures using Bank of England implied inflation rates.

Source: Capital IQ, Ofwat data, PwC analysis.

Outperformance against the cost of debt will feed into outperformance on the cost of equity. The strong outperformance in the 2010-15 period has been the result of both the elevated uncertainty at time of the PR09 determination and the impact of monetary policy on interest rates, so may not be easily repeated.

SIM

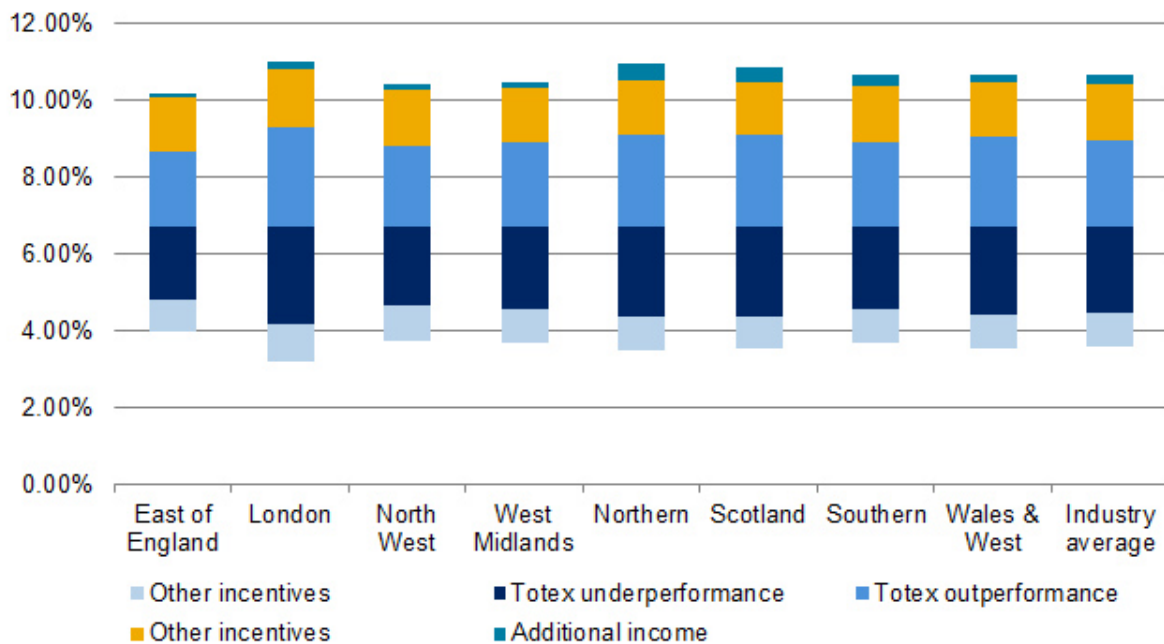
The SIM is a common cross-company customer service incentive mechanism. Based on maximum potential impact on companies, we estimate the range for SIM rewards/penalties of -1% to +0.5% of total revenue at PR09³². This translates to a RoRE impact of about -0.5% to +0.25% (excluding any impact on costs linked to SIM performance). As SIM is based on a ranking of company performance, only a limited number of companies can benefit from SIM outperformance in the price control period.

³² See Ofwat (October 2013), ‘Service incentive mechanism (SIM) for 2015 onwards – a consultation’.

A4.5 Energy sector benchmarks

Ofgem considered RoRE variability in setting the RIIO price controls³³. Figure 14 below shows the expected RoRE variation for gas distribution companies for the GD1 period from cost and performance incentives. This figure does not take account of interactions between incentives, so is broadly equivalent to figures 11 and 12 for the water companies. The expected total RoRE variation is broadly symmetric with slight upward skew around the RoRE of 6.7%. The industry average variation ranges from +3.9% to -3.1%.

Figure 14 RoRE ranges for RIIO-GD1 companies



Source: Ofgem financial model for RIIO-GD1.

³³ See, for example, ‘Ofgem RIIO-GD1: Final Proposals – Finance and uncertainty supporting document’, p31-33. “We regard an appropriately calibrated price control package as one in which RoRE upside (i.e., the reward available for the best-performing companies) provides the potential for double-digit returns on (notional) equity, and RoRE downside (i.e., the penalties that would apply to the worst-performing companies) is at or below the cost of debt.”

There are differences between the water sector and regulated energy networks, including some differences in the regulatory framework. This may affect the overall balance of incentives – for example, the role of performance and cost outperformance incentives, and the relative impact of statutory requirements and penalties on the overall risk profile. But we would expect to see a consistency in the overall range for RoRE for regulated utilities with comparable returns.

We understand that gains from financing are not included in Ofgem's analysis. The Ofgem RIIO cost of debt is based on a benchmarking approach by means of which the cost of debt will reflect changes in the market over time. This reduces the scope for outperformance on cost of debt. Therefore, financing outperformance is a source of additional variance in the water sector.

In comparison with information presented in company business plans, there is much greater consistency in expected RoRE range across gas distribution networks and in all cases, a greater upside return for gas distribution networks.

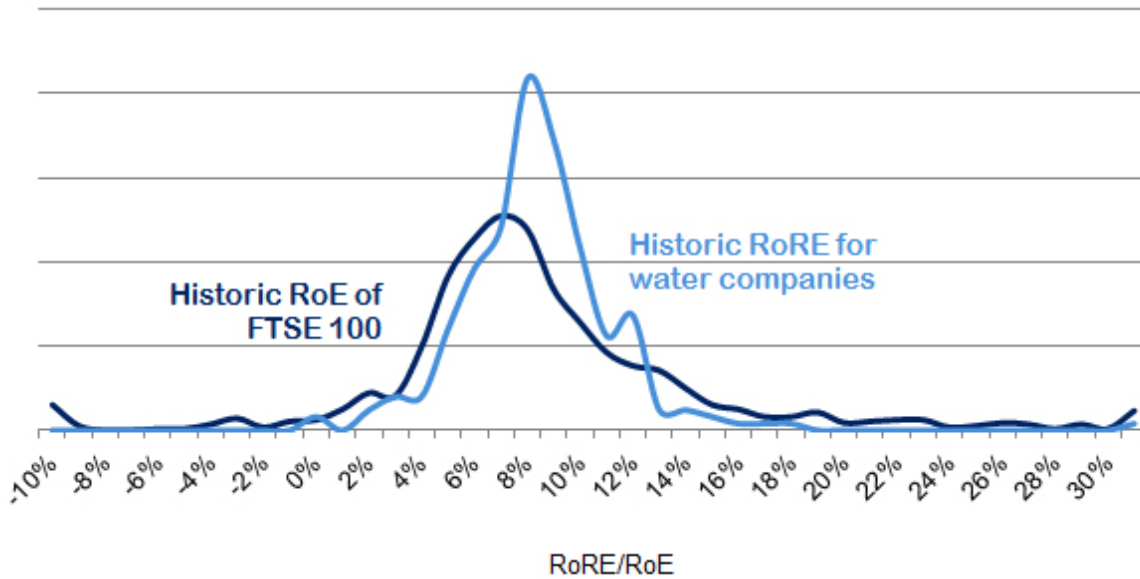
A4.6 Wider market evidence

Figure 15 below compares historical RoRE variation for the water sector with historical return on equity (RoE)³⁴ across the FTSE 100. The figure shows that FTSE 100 companies have historically experienced greater volatility in returns compared with water companies. This is consistent with our view on the equity beta for water companies. Based on annual returns between FY2000 and FY2012, the P10 to P90 range for RoE for the FTSE 100 is around 11.0% (that is, 80% of the observations lie between approximately 3.0% to 14.0%)³⁵.

³⁴ Calculated on basis of market value of equity.

³⁵ Extreme outliers (defined as companies with returns of positive or negative 100%) are excluded from this analysis.

Figure 15 Historical RoRE in the water sector and FTSE 100 variation



Source: Water company accounts, water company business plans, Capital IQ, PwC analysis³⁶.

Scaling this range to account for the level of systematic risk faced by water companies allows a more meaningful interpretation of the evidence. By definition, the entire market (in this case the FTSE 100) has an equity beta of 1.0. For water companies, we have estimated an equity beta of 0.8. Using this to scale, the RoE range for the FTSE 100 results in an adjusted RoE range of approximately 8.8%, or $\pm 4.4\%$ around the cost of equity.

We appreciate that RoRE averages for water companies and RoE for FTSE 100 are not calculated on wholly consistent bases. FTSE 100 variance is calculated from returns from company financial accounts and RoE is calculated on market basis, while water company returns are based on regulatory accounts and RoRE is based on equity portion of regulatory capital. But, we consider the evidence is indicative of the potential spread of returns of a company with an equivalent risk profile.

³⁶ FTSE 100 returns are taken from 2000-12 and water company returns are taken from 2002-13. For the current constituents of the FTSE 100 for which S&P issuer credit ratings are available, 94% are investment grade (BBB- or higher).

A4.7 Conclusions

It is important there is scope for outperformance where the benefits of this outperformance can be shared by customers. In our view, companies' business plans do not offer the appropriate scope for outperformance given our assessment of the WACC. So, we are inviting the Boards of companies to reconsider their incentives. We are providing the following ranges as a guide to the expected RoRE range as part of this pre-qualification guidance.

Based on these historical sector experiences, energy sector benchmarks and wider market, we expect a RoRE variance from base returns of $\pm 3.5\%$ to $\pm 4.5\%$ or given an allowed cost of equity of 5.7%, a RoRE range broadly between 2% to 10%. This is broadly equivalent to a $\pm 1.3\%$ to $\pm 1.7\%$ difference in the WACC.

In addition to companies' proposals being broadly consistent with this overall range, it is important that there is a reasonable balance between incentives for cost reduction and outperformance in relation to service and delivery to customers. It is also important that customers are properly protected from any important failures to deliver base service levels or enhancements. The package of incentives should be consistent with evidence on affordability and related to willingness to pay (WTP). ODIs should take account of the impact of totex efficiency sharing.

How might this expected variation in returns be split between cost and delivery incentive outperformance?

Cost performance

Cost performance for a regulated utility should be a significant driver of equity returns – a substantial amount of cost risk will have to be borne by companies (see appendix 5 on managing uncertainty). Companies should also be able to earn additional rewards through cost outperformance, which will benefit customers over the longer term. We do not expect companies to alter their cost performance incentives as part of their response to pre-qualification guidance, but we would expect that they consider the total scope for outperformance, including cost performance, as part of the information they provide on the risk and reward balance of their revised business plan.

As outlined above, for regulated energy networks, Ofgem's GD1 sets cost performance incentives at $\pm 2\%$ of RoRE. Historical water sector experience is also consistent with cost performance variance of $\pm 2.0\%$. Given the move to totex, we would expect that companies may anticipate greater scope for outperformance than experienced historically.

Enhanced companies will also benefit from an enhanced cost performance menu and should therefore anticipate additional reward for outperformance reflecting the value to customers of high-quality business plans and delivering better service.

However, in their business plans most companies anticipate cost performance variance of significantly less than this amount (only two companies have identified significant scope for cost outperformance greater than +2.0%). We would expect that cost performance would provide for at least $\pm 2.0\%$ on RoRE.

SIM

From a company's perspective, SIM is inherently uncertain because the amount of reward/penalty depends not only its own performance, but also on the performance of peer companies. The extent to which this should be reflected as an upside or a downside risk within the overall RoRE range in company business plans depends on the specific assumptions each company has made in its plan. In our consultation on SIM, we proposed a range for SIM rewards/penalties of -1% to +0.5% of total revenue³⁷. This translates to a RoRE impact of about -0.5% to +0.25%. However, individual companies' own P10/P90 ranges may not include either extreme, depending on their current ranking and their expected change relative to other companies.

Financing outperformance

The water sector has enjoyed considerable outperformance in PR09, as the cost of capital was set during a period of significant financial turbulence. We would not expect that such outperformance would continue in PR14. But it remains the case that companies could outperform the allowed cost of capital such as by managing cost of debt more efficiently than allowed for in the price control. We suggest financing performance could have a RoRE impact of between $\pm 0.1\%$ to $\pm 0.5\%$, with the upper end somewhat lower than the outperformance in PR09, which arose from relatively unusual circumstances that may be outside of the P10/P90 range in the next control period.

³⁷ See Ofwat, October 2013, 'Service incentive mechanism (SIM) for 2015 onwards – a consultation'.

ODIs

There is evidence that companies have discussed penalty and reward ODIs with their CCGs and/or directly with customers. Although the specifics vary by company and by ODI, these discussions are reported as revealing a lack of preference for financial rewards. This has influenced companies towards a relatively conservative approach to ODIs, with relatively few instances of financial rewards, and relatively modest financial penalties.

We appreciate that the development of ODIs and their incentive mechanisms has involved substantial work by companies and CCGs, and the development of incentives involves complex issues with a wide range of impacts, some less visible than others. Although we recognise the importance of the views expressed on financial incentives, we have concerns about the way in which these discussions were framed. In particular, we have seen no evidence that companies explored packages, or trade-offs, involving a lower base cost of capital in return for the opportunity to earn meaningful additional rewards through outperformance. Also, in the context of the individual company-proposed ODIs, we are concerned that there had been insufficient effort to explain, in a balanced way, the potential for rewards and win-win benefits sharing.

As noted above, we would expect a reasonable balance between cost performance and ODIs. In the energy sector, potential ODI outperformance makes up around 1.5% of the RoRE. Cost performance incentives in the order of 2.0% and total upside of around 4.0% and other incentives (SIM and financing) of around 0.5% to 0.8% would suggest an ODI range of between ± 1.0 to $\pm 2.0\%$, bearing in mind that the net total RoRE range will then reflect the likelihood that cost and delivery incentives will partly offset each other in different scenarios. Although we appreciate these comparisons are approximate, we would suggest ODI upside of more than 1.0%.

We do not expect all companies to be totally consistent within the ranges outlined above. We expect there to be some offsetting effects, which will mean the overall RoRE range is likely to be less than the sum of the impacts indicated for each performance incentive. Also, we welcome innovative mechanisms from companies to bear and manage risk. Some may choose to bear and manage more risk than others, within the risk appetite of their investors. But all incentives will need to be calibrated to the reward package set out in this guidance document.

Appendix 5: Uncertainty mechanisms

A5.1 Approach

All companies face uncertainty about future costs and revenues. We consider that good risk sharing mechanisms provide companies with incentives to reduce costs and provide better services.

Companies have access to a range of uncertainty mechanisms designed to address risk, including, among other things:

- the periodic price control review;
- totex cost sharing incentives;
- indexation of RCV and allowed wholesale revenues by RPI; and
- the IDoK and substantial effects provisions in companies' licences.

All of these can effectively reduce companies' exposure to unexpected variations in costs and/or revenues by allowing them to pass some of the unexpected variation on to customers through changes in bills³⁸. While they transfer some risk to customers of higher bills if costs are higher than expected, they are generally symmetric and if costs are lower than expected customers' bills would fall.

For PR14, companies were able to propose their own uncertainty mechanisms in their business plans. In doing so, we asked them to make a compelling case for each uncertainty mechanism, including providing information on how each would be consistent with protecting the interest of customers and companies' wider statutory duties and obligations.

As we said in our methodology statement, we consider that additional risk should only be fully transferred to customers when companies are unable to influence the impact on their business. When a company is able to materially influence the probability or magnitude of impacts, or mitigate the effect efficiently, then the risk should remain with the company, at least in part. This type of risk sharing approach provides companies with strong incentives to reduce negative impacts and seek out positive impacts.

³⁸ Each mechanism has different rules as to when cost and revenue impacts can be shared and companies do not have an automatic right to pass on impacts.

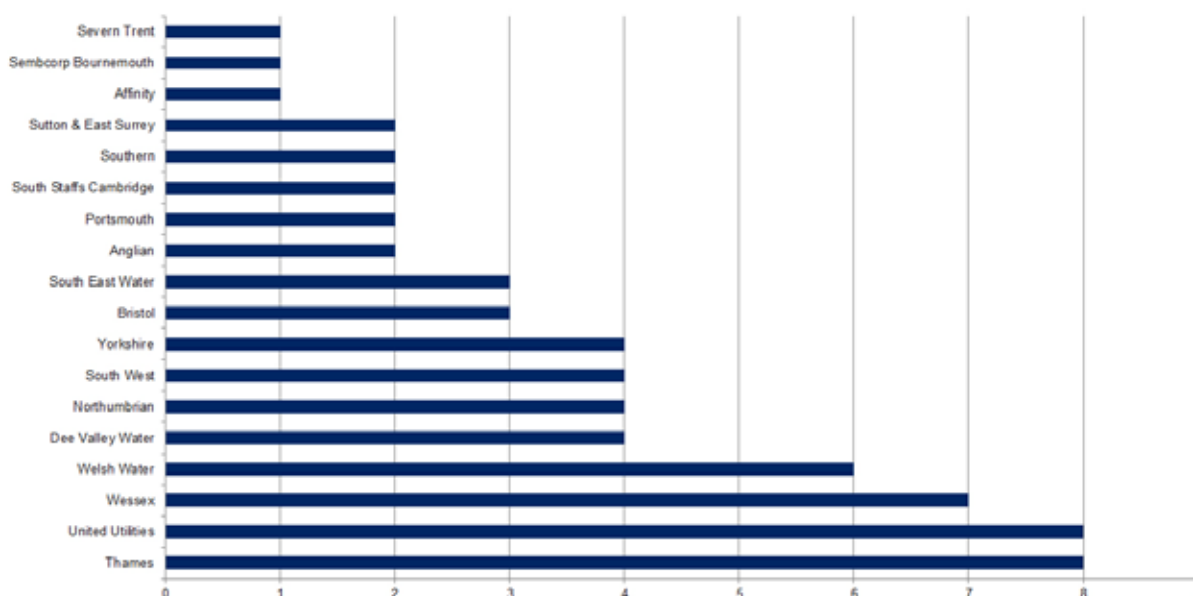
A5.2 Company submissions on uncertainty mechanisms

In their business plan submissions, companies proposed a range of different uncertainty mechanisms. These mechanisms to reopen existing price limits include:

- notified items identified in price reviews for cost items not included in full in companies' proposed baselines; and
- relevant change of circumstances (RCC) in existing licences – for example, for new statutory requirements to deliver outcomes.

As figure 16 below demonstrates, some companies proposed relatively few uncertainty mechanisms, whereas others proposed several.

Figure 16 Number of proposed uncertainty mechanisms



Source: Ofwat analysis of companies' business plans.

Our initial review suggests many companies proposed uncertainty mechanisms that protect them excessively from impacts over which they have some control. We consider these types of proposals blunt the incentives for companies to manage outcomes, which would not be in the best interests of customers.

For instance, it is not clear that companies require additional protection from possible increases in the cost of capital programmes beyond that provided by totex cost sharing and the existing RCC mechanisms. In particular, in formulating business plans companies have significant information available on the likely shape and requirements of future environmental programmes. They also have the ability to

influence how changes in future requirements might impact on capital programmes. While companies do face risks associated with other factors, such as the changing patterns of demand, these appear relatively modest compared with the risks that other sectors face (as demonstrated in the RoRE analysis, in appendix 4 above) and totex cost sharing already provides for significant risk sharing.

However, we will continue to consider the detail of arguments made by companies, including pre-qualified companies, in relation to these matters.

Transparency and customer engagement

We appreciate that a number of companies have considered carefully how they can share pain/gain from potential uncertainties with their customers. We think that there were some excellent proposals to introduce greater transparency and customer engagement in this area. We consider that these arrangements should be adopted more widely and will be looking for pre-qualifying companies to develop proposals in this area.

A5.3 Our guidance on uncertainty mechanisms

A number of companies have broadly accepted that the risks associated with running a water company are part of the package equity holders sign up to when investing in the business. Since some companies accept these risks, it is not clear why others consider that they are not able to bear similar risks, particularly those over which they have some control.

As noted elsewhere in this document, we consider all companies should share a single notional cost of capital. It follows that it is not appropriate for different companies to have access to substantially different uncertainty mechanisms, unless there is clear evidence that these companies face materially different specific risks. So, as part of our risk and reward package, we expect all pre-qualified companies to adopt a consistent suite of standard industry uncertainty mechanisms alongside those specific to their own outcome delivery proposals in ODIs.

Consistent with our methodology statement we expect ODIs to protect customers from the non-delivery of large projects, with penalties to claw back totex funding where a company fails to deliver on business commitments that are supported by evidence of customer WTP. However, given that such non-delivery in some cases may be associated with totex savings, then the impact on RoRE may be relatively modest.

We are continuing to review the case for the uncertainty mechanisms put forward in business plans, but the initial results suggest that companies should have relatively few standard industry uncertainty mechanisms beyond the existing arrangements for:

- RPI indexation;
- five-yearly price reviews;
- totex cost sharing incentives;
- the flexibility provided by ODIs; and
- the IDoK and substantial effects provisions in existing licences.

We will be seeking reassurance from our assessment of business plan information that all pre-qualifying companies adopt a transparent approach to gain/pain sharing with their customers and that customers are properly protected from the non-delivery of projects supported by evidence of WTP.

We will allow companies to include an appropriate uncertainty mechanism for the revaluation of business rates in 2017. Our initial assessment of business plans suggests that the uncertainty is greater in relation to water than wastewater. Pre-qualified companies that have not already done so will be permitted to submit an uncertainty mechanism for business rates for the wholesale water service as part of their acceptance of our risk and reward package. Such a mechanism should allow for enhanced cost sharing, but retain a residual incentive to argue for reasonable treatment in the review of rating arrangements on behalf of their customers.

As noted above, we are continuing to analyse business plan information on uncertainty mechanisms. If we decide that further mechanisms are appropriate, then these will also be offered to enhanced companies, consistent with the approach of ensuring that enhanced companies are no worse off as the result of a decision taken in later draft determinations.

For the avoidance of doubt, companies should not assume that the existing arrangements for logging up/down and shortfalling are retained.

We consider that the transparency and customer engagement dimensions should be adopted and that any pain/gain share mechanism should include a commitment to these elements.

Appendix 6: Process for adopting this guidance

A6.1 Approach

The guidance in this document is relevant for the Boards of companies. There will be a regulatory process for any pre-qualifying companies around this guidance. It sets out our view on the appropriate risk and reward package and should be read alongside our methodology statement.

A pre-qualifying company will have passed the remaining tests in the RBR. These tests relate to:

- costs;
- outcomes;
- affordability; and
- Board assurance.

On 10 March, any companies that pre-qualify will be invited to adopt the risk and reward guidance.

We will make clear at that point what the additional financial incentives will be for enhanced companies for cost outperformance.

If a pre-qualifying company wishes to adopt the guidance, it will be necessary for them to have revised certain aspects of their business plans, including carrying out any customer engagement and Board assurance that they consider appropriate. Finally, to complete the regulatory process, certain data tables will need to be submitted.

Revisions will be limited to aspects of the business plan that are related directly to risk and reward. This includes ODIs and any corresponding changes to performance commitments. Performance commitments should only be adjusted where companies are making changes to the relevant ODI, and companies should explain why the performance commitment target is being altered. For example, an increase in the level of the ODI could justify a corresponding increase in the relevant performance commitment. This would demonstrate that the additional financial incentive will be to help fund enhanced performance so that customers share the performance benefits with investors.

We will also allow companies to have flexibility to reconsider whether they wish to adjust the levers that have been introduced in PR14 to help them manage

financeability. We will be asking Boards of companies to re-confirm their business plan remains financeable as part of their response to the pre-qualification process. It would not be appropriate for pre-qualified companies to make more fundamental revisions to their business plans at this stage. If the Board considers that such revisions would be needed, the company would follow the standard process for the resolution of their price control. Business plans must also remain capable of passing the RBR tests on which prequalification was achieved.

If a pre-qualified company accepts the risk and reward package set out in this document, and revises its business plan that includes effective incentive mechanisms and remains affordable and financeable, it will receive enhanced status.

A6.2 Tools for adopting our risk and reward package

There are a range of tools within the business plan framework that will help companies to align their business plans with our risk and reward guidance.

For clarity, table 13 below summarises the information we expect pre-qualified companies to provide by 10.00am on 17 March, if they are seeking enhanced status. Pre-qualified companies that do not revise and re-submit the relevant aspects of their business plans will be classified as standard. For the avoidance of doubt, we do **not** expect companies to re-submit the entirety of their business plans; only commentary, supporting information and data tables that are different to the original submission.

Where revised information is provided, it must be sufficient for us to determine whether the revised plan meets the RBR tests set out in our methodology statement. We would encourage companies to explain clearly and concisely how their revised business plans adopts our guidance, and to provide supporting information that is comprehensive, robust and convincing. Pre-qualified companies that do not do this or otherwise fail to meet the risk and reward criteria in this guidance with their re-submitted information will be classified as a standard company, and we will rely on the test outcomes used for pre-qualification in completing the price review for these companies.

Where supporting data tables are required, companies should re-submit the entire table, highlighting specific cells where information has been revised. If a company considers that no changes are required to any of the data tables (as listed below), then this should be explained clearly. It is crucial that companies check carefully the consistency of their revisions with all other aspects of their original submission.

Table 13 Summary of requirements

RBR tests	Information requirements	
	Summary	Data tables
Consumer engagement and WTP information	There is no regulatory requirement in this area for pre-qualifying companies. Company Boards should consider the appropriate engagement with customers around the risk and reward package.	n/a
Performance commitments	Companies should only revise or re-submit information on performance commitments where this is necessary to support their revised ODIs. They will need to demonstrate link between an increase in ODIs and performance commitment.	W1, W2, S1, S2, R1, R2
ODIs	Companies should revise their ODIs, as required. They should submit sufficient and convincing evidence that their ODIs appropriately incentivise performance. And they should demonstrate that their revised business plans contain proposed risk/rewards within the parameters set out in this document, including our guidance on how over/under performance impacts on RoRE.	W2, W2a, S2, S2a, R2, R2a
Wholesale cost assessment	Companies should not revise or re-submit information on totex and cost composition. They should revise information on uncertainty mechanisms. And they should generally assume that exceptional cost performance proposals will be limited to those that align with the guidance set out in this document.	W11 and S11 only
Retail cost allocation	Companies should not revise or re-submit their cost allocation proposals.	n/a
ACTS adjustments	Companies should not revise or re-submit their cost adjustment proposals.	n/a

Default tariffs	<p>We have removed the determination of default tariffs from the RBR and instead require further information on the basis of companies' existing business plan proposals by 1 March.</p> <p>Companies should not revise or resubmit information on default tariffs.</p>	n/a
Risk analysis	<p>Companies should provide sufficient and convincing evidence that their revised business plans contain proposed risk impacts within the parameters set out in this document.</p> <p>In relation to scenario analysis, companies are required to re-submit information in relation to Scenario I only (that is, the overall scenario).</p> <p>Further information on how we expect them to demonstrate that their business plan contains an appropriate balance of risk and reward is provided below.</p>	<p>A8, A20 (as amended – that is, Scenario I only)</p> <p>See further guidance below</p>
Level and allocation of risk	<p>Companies should provide sufficient and convincing evidence that their revised business plans contain an appropriate balance of risk and reward, including demonstrating an efficient level and allocation of risk.</p> <p>As above, they should revise aspects of their business plan that relate to table A8 and Scenario I from table A20. Further guidance is provided below.</p>	<p>A8, A20 (as amended – that is, Scenario I only)</p> <p>See further guidance below</p>
Rewards and returns	<p>Companies should confirm they adopt our guidance on an appropriate industry-wide wholesale WACC. They should revise their risk and reward proposals in line with this guidance.</p> <p>Any small companies that are seeking adjustments to this guidance must provide evidence that this is cost beneficial to customers.</p>	<p>W18, S18</p> <p>See further guidance below</p>

Setting price controls for 2015-20 – risk and reward guidance

Retail net margins	Companies should confirm they adopt our guidance on appropriate household and non-household net margins. They should revise their risk and reward proposals in line with this guidance.	R5 See further guidance below
Financeability	Companies may vary their use of new regulatory mechanisms such as the PAYG ratio and RCV runoff rate, if required. They should provide sufficient and convincing information to demonstrate their business plans – including revisions – are financeable.	A1, A2, A3, A10, A11, A12, A13, A14, A15, A19, A22, A23, W9, S9, W10, S10 W18, S18, S19 W19 See further guidance below
Affordability	Companies should provide sufficient and convincing information to demonstrate that their revised business plans remain affordable to customers.	A1 See further guidance below

A6.3 Further guidance on risk analysis/impacts (tables A8 and A20)

In their business plans, companies adopted different approaches to calculating RoRE. The guidance below clarifies the formula companies should follow, consistent with our clarification request of 16 January 2014³⁹. As some companies noted in their business plans, an accounting based definition of RoRE, which some of them appear to have used, is not directly comparable to the cost of equity.

Figure 17 RoRE calculation

$\text{RoRE} = \frac{\text{Return due to shareholders}}{\text{Notional equity component of RCV}}$	
Where:	<p>Return due to shareholders¹ = Appointee allowed revenue Plus(Less) incentive rewards/(penalties)² Less PAYG ratio x totex (that is, 'fast money') Less retail operating expenditure³ Less regulatory depreciation (RCV run-off + depreciation of new totex RCV additions) Less notional interest cost (notional cost of debt x average notional net debt) Less current tax (not deferred tax)⁴</p> <p>Notional equity component of RCV = Average RCV x (1 – notional gearing)</p>
	<p>¹ In table A20 the figures used in the RoRE calculation – for example, totex, should reflect scenario impacts.</p> <p>² Incentive rewards/penalties should be included in the return calculation as they are incurred during the PR14 period rather than when they the actual monetary reward/penalty is received.</p> <p>³ Including depreciation on retail assets added in the next control period.</p> <p>⁴ Deferred tax is an accounting concept that reflects historical company-specific accounting decisions and therefore is not consistent with a regulatory building blocks or notional company approach.</p>

Consistent with our earlier clarification request on RoRE tables, companies will be required to re-submit information only for Scenario I. We require companies to provide a detailed breakdown of the impacts of different risks factors including, among other things, the effect of cost uncertainty and ODIs. In addition to earlier clarification requests, we now request that companies separately identify the impact on RoRE of financing performance, consistent with appendix 4. Specifically, they

³⁹ This definition is consistent with the definition of RoRE provided in our methodology statement. See 'Appendix 5: Guidance on business plan tables', p 61.

should provide the effect of overperformance or underperformance against the notional cost of debt, holding constant all other WACC inputs.

Information on the impacts should be provided for a high and a low case, which represent outcomes with a 10% probability of occurring on either the down or upside. This is equivalent to scenarios in the 10th and 90th percentile of possible outcomes, referred to as the P10 and P90 reference points. This means the outcomes being modelled are not the most extreme possible, but still have a relatively low probability of occurring.

We have amended the relevant part of table A20 since business plans were submitted originally. We are now asking for more disaggregated information than previously. Pre-qualified companies will need to provide information separately on the possible 'high case' and 'low case' for their uncertainty mechanisms. This means that to the extent the scenario assumes the use of a notified item, change protocol or other uncertainty mechanism, the amounts the company expects to recover or pay will have to be entered separately in the table. In addition, we are now asking for information on each financial ODI separately.

A6.4 Further guidance on financeability

We expect companies to demonstrate clearly that their revised business plans remain financeable. Pre-qualified companies are free to vary the PAYG and RCV run-off rates within their business plan, to ensure the overall coherence of their plan.

As well as re-submitting relevant data tables that highlight clearly any changes, we expect companies to:

- explain and justify the drivers of any financeability constraint;
- explain and justify whether, and how, they have used tools such as the PAYG ratio and RCV run-off rate to address any financeability/affordability constraint. They should demonstrate clearly that their choice of PAYG/RCV ratio and RCV run-off rates minimises costs to customers and are consistent with financeability/affordability beyond the forthcoming control period; and
- provide revised financial ratios and explain how those ratios are consistent with target credit ratings under the proposed actual capital structure and investment grade credit rating under notional capital structure. In doing so, companies will need to explain how much headroom they require on key financial ratios relative to the boundary of investment grade rating and indicate if they will continue to target the same credit rating.

A6.5 Other considerations

In addition to the RBR tests, in our methodology statement we said that we would take account of two further considerations as part of our assessment of the quality of business plans – historical performance and Board assurance.

Relevant aspects of companies’ historical performance include:

- their actual performance over the 2010-15 period; and
- proposed adjustments to 2015-20 price controls.

We do not consider that any changes will be required to these aspects of companies’ business plans as a result of our risk and reward package. Consequently, companies should not re-submit any information on performance in 2010-15.

Also, the detailed guidance contained in this document does not alter our view that Boards of companies should continue to own and be responsible for their business plans. Consistent with the expectations outlined in our methodology statement, Boards of companies should provide an assurance statement.

A6.6 Next steps

Table 14 below sets out a summary of our revised RBR process. At this stage, we are not making any changes to the remainder of the published PR14 timetable.

Table 14 Next steps

Date	Phase
10 March	Pre-qualified companies will be notified
17 March, 10:00am	Deadline for pre-qualified company to accept risk and reward package and provide revision of business plan
4 April	Results of RBR announced for all companies

Ofwat (The Water Services Regulation Authority) is a non-ministerial government department. We are responsible for making sure that the water sector in England and Wales provides customers with a good quality and efficient service at a fair price.



Ofwat
Centre City Tower
7 Hill Street
Birmingham B5 4UA

Phone: 0121 644 7500
Fax: 0121 644 7699
Website: www.ofwat.gov.uk
Email: mailbox@ofwat.gsi.gov.uk

Photograph © Stockvault
Printed on 75% minimum de-inked post-consumer waste paper
January 2014

ISBN 978-1-908116-61-1

© Crown copyright 2014

You may reuse this information (excluding logos) free of charge in any format or medium, under the terms of the Open Government Licence v2.0. To view this licence, visit <http://www.nationalarchives.gov.uk/doc/open-government-licence/version/2> or email psi@nationalarchives.gsi.gov.uk.

Where we have identified any third party copyright information, you will need to obtain permission from the copyright holders concerned.

Any enquiries regarding this publication should be sent to us at mailbox@ofwat.gsi.gov.uk.

This document is also available from our website at www.ofwat.gov.uk.



www.ofwat.gov.uk