
Financeability of the RIIO-2 Draft Determinations

Prepared for
Freshfields on behalf of SHE
Transmission plc

4 September 2020

Final

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Contents

Executive summary	1
1 Introduction	7
2 Purpose and principles of the financeability test	8
2.1 Financeability needs to be assessed against appropriate benchmarks	8
2.2 The notional company should be robustly defined	12
2.3 A financeable company should be resilient to plausible downside scenarios	12
2.4 Long-term financeability, as well as short-term cash flows, is an important consideration	13
2.5 Implications for RIIO-2 financeability assessment	14
3 Ofgem's approach to debt financeability	16
3.1 Target credit rating	16
3.2 Ofgem's calculation of credit ratios differs from the credit rating agencies	17
4 Debt financeability: Ofgem has altered the definition of the notional company to enhance credit metrics	21
4.1 Ofgem's definition of the SHE-T notional company	21
4.2 Index-linked debt	22
4.3 Gearing	25
4.4 Capitalisation rate	28
4.5 RPI-CPIH transition	29
4.6 Dividend yield	30
4.7 Summary	32
5 Ofgem focuses on debt financeability and its assessment of equity financeability is limited	35
5.1 The allowance for the cost of equity is too low	35
5.2 Equity analysts have expressed concerns with Ofgem's allowed return	38
5.3 Investors are required to issue equity under the notional company base case	38

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5.4	Ofgem's outperformance adjustment on the allowed equity return is inappropriate, incorrectly calibrated, and undermines efficiency incentives	39
6	TOTEX allowances are insufficient and the package of incentives is negatively skewed	42
6.1	TOTEX allowances are insufficient	42
6.2	TOTEX incentive mechanism	45
6.3	Output delivery incentives and price control deliverables	46
6.4	Uncertainty mechanisms	46
6.5	Real price effects	48
6.6	Summary	48
7	Conclusions	50
A1	Financeability assessment	52

Boxes, figures and tables

Figure 1	AICR with cumulative changes in the notional company	3
Table 1	Impact of downside shocks for the SHE-T notional company in RIIO-2	5
Table 2.1	Moody's' rating methodology for regulated energy networks	10
Table 2.2	CMA precedent on target credit ratings for Northern Ireland Electricity	10
Box 2.1	Financeability issues may be exacerbated for non-steady-state companies	11
Box 2.2	Precedent for financeability 'stress tests'	13
Table 3.1	Average credit metrics during RIIO-2 vs indicative ranges for investment-grade credit ratings	16
Table 3.2	Comparative review of Ofgem's financeability metrics	17
Table 4.1	Assumptions underpinning Ofgem's assessment of the financeability of the SHE-T notional company	21
Figure 4.1	Companies' index-linked debt for RIIO-1 (2017/18)	23
Figure 4.2	Companies' index-linked debt for RIIO-1, excluding NGGT (2017/18)	23
Table 4.2	Impact of varying the index-linked debt assumption for the SHE-T notional company in RIIO-2	25
Figure 4.3	Actual gearing for energy companies over RIIO-1	26
Table 4.3	Impact of varying the notional gearing assumption for the SHE-T notional company in RIIO-2	27
Figure 4.4	Actual gearing under 55% and 60% notional gearing as per Ofgem's model	28
Table 4.4	Impact of varying the inflation measure for the SHE-T notional company in RIIO-2	29
Figure 4.5	Average dividend yield of listed water companies over AMP7	31
Table 4.5	Impact of varying the dividend yield assumption for the SHE-T notional company in RIIO-2	31

Figure 4.6	Actual gearing under a 3% and 5% dividend yield as per Ofgem's model	32
Figure 4.7	AICR with cumulative changes in the notional company	33
Figure 4.8	FFO (interest expense)/net debt with cumulative changes in the notional company	33
Figure 4.9	RCF/net debt with cumulative changes in the notional company	34
Figure 5.1	The allowed cost of equity for RIIO-2	36
Figure 5.2	Optimal allowed cost of capital	37
Figure 5.3	TOTEX out/(under) performance in RIIO-1	40
Figure 6.1	Efficiency challenge in Ofgem's Draft Determinations	43
Figure 6.2	Ofgem's TOTEX allowances compared with company proposals (%)	44
Table 6.1	TOTEX incentive mechanism	46
Figure 6.3	ODI calibration for RIIO-2, potential RORE impact	46
Figure 6.4	Base allowances versus uncertainty mechanisms for RIIO-2	47
Figure 6.5	Average annual equity buffer over RIIO-2 with downside shocks (% of RORE)	49
Table 6.1	Impact of downside shocks for the SHE-T notional company in RIIO-2	49
Table A1.1	Full financeability assessment for the notional company plus sensitivities	52

Executive summary

Scottish Hydro Electric Transmission plc (SHE-T) has asked Oxera Consulting LLP (Oxera) to review Ofgem's assessment of the financeability of the RIIO-2 Draft Determinations. This report is intended to sit alongside SHE-T's response to the consultation on the Draft Determinations.

In carrying out its principal objective to protect the interests of current and future users, Ofgem is required to have regard to 'the need to secure that licence holders are able to finance the activities which are the subject of obligations imposed'. As explained in section 2, there are two aspects of financeability that are generally considered by regulators:¹

- allowing an efficient, well-run company to earn a rate of return that is commensurate with its cost of capital;
- providing sufficient revenues to enable an efficient, well-run company to raise finance from capital markets readily and on 'reasonable' terms.

For the purposes of assessing financeability in the RIIO-2 Draft Determinations, Ofgem has conducted analysis of the ability of its definition of a notionally efficient company to maintain a solid investment-grade credit rating. Its approach is based on modelling credit ratios through the Price Control Financial Model (PCFM)² and combining this with its view of how credit rating agencies will assess other factors that determine creditworthiness (e.g. the stability and predictability of the regulatory regime).

It is important to recognise that credit ratio analysis does not in itself provide evidence that the cost of capital and, in particular, the cost of equity have been set at a level that appropriately reflects capital markets and the level of risk borne by investors. Reaching the minimum Baa1 thresholds is a necessary but not sufficient condition to be financeable. By way of example, in the case of the NATS En Route Ltd (2020) redetermination, the CMA concluded that the return on equity had been set too low despite the company exceeding credit ratio thresholds in the Civil Aviation Authority's (CAA's) analysis.³

Oxera's analysis for the Energy Networks Association (ENA) shows that the allowance for the cost of equity is too low.⁴ It finds a cost of equity range of 5.27–6.23% (CPIH, real) at 55% gearing, compared with Ofgem's allowed return on equity of 3.70% (CPIH, real) for transmission companies in RIIO-2.

Ofgem's financeability assessment masks a financeability issue caused by the allowed return on capital being set too low

Ofgem has defined the SHE-T notional company as achieving notional gearing of 55%, 30% CPIH-linked debt and a dividend yield of 3%. It provides an allowed equity return of 3.70%, after making a 22bp deduction for 'expected outperformance'.

We have reviewed Ofgem's assessment and find that key concerns include:

¹ See, for example, Ofgem (2010), 'Regulating Energy Networks for the Future: RPI-X@20: Emerging Thinking – Embedding financeability in a new regulatory framework', 20 January, para. 3.1.

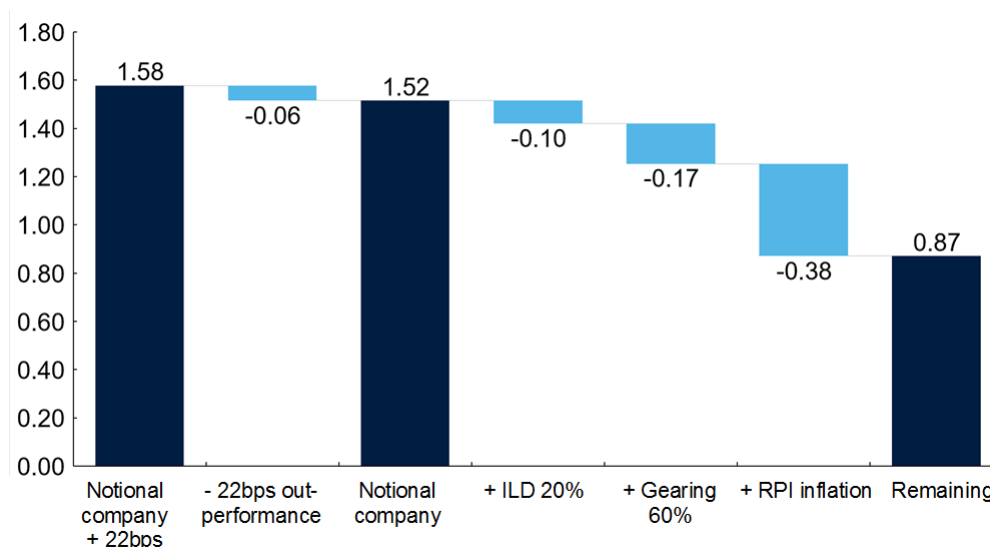
² For the avoidance of doubt, see Ofgem (2020), 'Draft Determinations – RIIO-ET2 Licence Model', July.

³ Competition and Markets Authority (2020), 'NATS (En Route) Plc / CAA Regulatory Appeal: Final report', 23 July.

⁴ Oxera (2020), 'The cost of equity for RIIO-2, Q3 2020 update', September.

- Between the Sector Specific Methodology Decision (SSMD) and the Draft Determinations, Ofgem has inappropriately altered the definition of the notional company—increasing the proportion of index-linked debt (from 25% to 30%) and lowering the notional gearing (from 60% to 55%)—in such a way as to give the appearance of enhanced credit metrics for a given set of costs and revenue allowances. The cumulative impact of reversing these changes is to reduce the AICR, FFO/net debt, and RCF/net debt below the typical minimum threshold for a BBB+/Baa1 credit rating (section 4.7). Ofgem's approach appears to make certain assumptions 'endogenous' to the analysis—i.e. they are adjusted in order to 'solve' the financeability constraint. This goes to the heart of the questions 'what is the purpose of the financeability test?' and 'what is the notionally efficient company intended to represent?'. It ought to be set exogenously and should not be endogenous to a company's financeability outcome. Otherwise, the financeability test is not a cross-check on the price determination assumptions and of the ability of a well-run company to meet its financial obligations, and therefore cannot be used to determine whether the regulator has met its statutory duties.
- While assuming a higher proportion of equity in the notional company (at 55% notional gearing compared with 60%), Ofgem assumes that this proportion of equity will receive a significant reduction in its remuneration, not just as a result of a large reduction in the allowed cost of equity but also due to the low level of dividends assumed by Ofgem. The dividend yield for the SHE-T notional company is 3% for RIIO-2. In comparison, a notional dividend yield of 5% was assumed in RIIO-1, despite the fact that regulatory asset value (RAV) growth was significantly higher in RIIO-1. Moreover, evidence from the listed water companies indicates dividend yields on regulated equity in line with the nominal allowed equity return for PR19. The PCFM shows that gearing has to rise above the 55% notional assumption in order to pay a dividend yield of 3%. The inability of the RIIO-2 Draft Determinations to support a dividend yield of 3% without requiring companies to 'gear up' above the assumed notional capital structure of 55% gearing, is indicative of a fundamental deficit in the allowed return on capital.
- The transition from RPI to CPIH indexation of the RAV has a positive cash-flow impact in RIIO-2 and therefore bolsters short-term credit ratios. If RPI were still the measure of inflation used to index the price control, the notional company's financeability metrics would be under significantly more pressure in RIIO-2. For example, the AICR would fall from 1.52x under CPIH to 1.12x with RPI indexation (section 4.5). This indicates that the reprofiling of revenues created by the change in approach to RAV indexation is 'masking' an underlying financeability issue at RIIO-2. Ofgem has not undertaken an assessment of the impact of an immediate switch to CPIH indexation on short-term and long-term financeability. Consequently, these impacts are not well understood. Moreover, Ofgem has not considered a transition period for the switch from RPI to CPIH, unlike Ofwat, which has adopted both measures of inflation for indexation in AMP7.

Figure 1 shows the impact on the Adjusted Interest Coverage Ratio (AICR) of the assumptions made by Ofgem. This shows that the AICR would be much lower than required for a BBB+/Baa1 rating absent the transition to CPIH indexation and based on assumptions for gearing and index-linked debt that are consistent with evidence sourced from outside the financeability assessment.

Figure 1 AICR with cumulative changes in the notional company

Note: All figures are simple averages over RIIO-2.

Source: Oxera analysis.

Credit ratios form part of the financeability assessment but this is not the complete test for whether the financeability duty has been met

Credit ratio analysis is well established in regulatory practice and, when appropriately applied, can provide a strong indication of whether there is a financeability issue—i.e. that there is an unacceptably high risk that the company will not be able to meet its liabilities as they fall due. Such analysis will highlight issues that would be of clear concern to investors. However, it only goes part way to addressing the question of whether both aspects of financeability have been met. Credit ratio analysis does not directly test whether the cost of capital has been set at a level that disincentivises equity investment or the adequacy of the total expenditure (TOTEX) allowance. As part of an appropriate financeability analysis, it is therefore also necessary to consider whether the company is able to attract new equity at the allowed rate of return (section 5) and whether the cost allowances reflect a reasonable expectation of what the company is expected to incur (section 6). This has been recognised by the Competition and Markets Authority (CMA) in previous price control inquiries:

Credit ratio analysis forms part of the assessment of financeability, but needs to be considered alongside the rest of the determination. In that context, we have had regard to our analysis on wholesale totex and cost of capital.⁵

Ofgem's conclusion that the RIIO-2 Draft Determinations are financeable relies on the assumption that the notionally efficient company can deliver the price control as a package, including outputs and performance obligations for the base cost allowances and that the allowed equity return is at least as high as the cost of equity. Oxera's analysis for the ENA shows that the allowance for the cost of equity is too low, and our analysis of the TOTEX allowances and incentives packages suggests that the distribution of returns is skewed to the downside.

⁵ Competition and Markets Authority (2015), 'Bristol Water plc: A reference under section 12(3)(a) of the Water Industry Act 1991', p. 348, para. 11.23.

The return on equity is insufficient and incorrectly includes a 22bp 'outperformance' adjustment

Ofgem's return includes an inappropriate 22bp 'outperformance' adjustment. Regulators have an array of tools at their disposal to determine evidenced and balanced price control parameters; it is inappropriate for regulators to decide before a price review even begins that they will inevitably fail to set expenditure allowances and output targets at an appropriate level.

Moreover, we find that Ofgem's quantification of historical outperformance suffers from several estimation issues (including but not limited to, the choice of comparators and observation periods) and is inconsistent with the scope for outperformance in RIIO-2.

Furthermore, the erosion of dynamic efficiency incentives by this outperformance adjustment is likely to be against the consumer interest, and short-term bill savings would be eliminated in a single five-year price control if cost efficiency improvements relative to allowed TOTEX are 4% less than they would otherwise have been. Future consumers will also be unable to benefit from efficiency improvements, further increasing the consumer harm.

The result of Ofgem's approach is to more than halve the allowed equity return for RIIO-2 relative to RIIO-1. This means that there is a considerably smaller buffer against downside risks (3.70% in return on regulated equity, RORE, terms, compared with 7.85% CPIH-real in RIIO-1).

There is a high risk that the TOTEX allowance is unachievable

The RIIO-2 Draft Determinations disallow a significant proportion of the forecast expenditure in the electricity transmission networks' business plans. For SHE-T, Ofgem has reduced the TOTEX baseline by around 12.5% due to cost reductions and additional efficiency (in addition to 20% in further cuts on the basis of reduced volumes/activity).

We have identified some issues with the RIIO-2 cost models and Ofgem's interpretation of these models, which create a high risk that Ofgem's TOTEX allowances are below the efficient level.⁶ In this context, we find that the scale of disallowed costs (approximately 45% across electricity transmission) is much greater under the RIIO-2 Draft Determinations than in previous transmission price controls (section 6.1).

Moreover, the combination of the outperformance adjustment and the Business Plan Incentive (BPI) means that even if Ofgem's base TOTEX allowance accurately reflects the P50 of the cost distribution, SHE-T would need to outperform by 21% to generate the base return.⁷ This has not been factored in to Ofgem's financeability analysis.

Ofgem's analysis does not consider the negative skew created by the package of incentives

⁶ Oxera (2020), 'Ofgem's TOTEX assessment approach at the RIIO-ET2 draft determinations: a review', September.

⁷ We calculate the 21% based on the SHE-T RAV of approximately £3,800m (2018/19 prices) over RIIO-2 and multiply this by $(1 - 55\%) \times 0.22\%$ to get the outperformance adjustment in cash terms as approximately £4m per year. This is approximately £20m over five years. We then add the BPI of £32.4m such that the cash total is £52.4m. After accounting for SHE-T RIIO-2 sharing factor of 30.9%, the company has to underspend its TOTEX allowance by approximately £170m to generate the cash impact of the 22bp adjustment and BPI. This is about 21% based on the total RIIO-2 base TOTEX allowance of approximately £800m (2018/19 prices).

The package of incentives and risk-sharing mechanisms has changed significantly since RIIO-1 as a result of the recalibration of financial incentives, greater use of indexation and introduction of additional ex post adjustment mechanisms. In addition, the incremental impact of the proposed regulatory changes is to limit the ability to earn high returns by more than they protect against the risk of earning low returns. As a result, the overall balance of risk and reward in the package is subject to a negative skew (section 6).

The impact of these downside shocks on the financeability assessment is material—all key credit metrics significantly deteriorate, in particular the AICR worsens to below an investment-grade credit rating (Table 1). This analysis assumes that dividends can be cut further or equity can be issued to maintain the gearing assumed in the Draft Determinations. However, as noted above, at 3.7% allowed equity return and a notional capital structure of 55%, the notional company is not able to achieve Ofgem's assumption of a dividend yield of 3%. There is thus even less scope for further dividend cuts to act as a mechanism for absorbing shocks in spite of the likelihood that these shocks would be larger than what Ofgem is assuming. Absent an injection of equity to maintain gearing at the Ofgem assumption, the metrics would worsen.

Table 1 Impact of downside shocks for the SHE-T notional company in RIIO-2

Key credit metrics	Notional company	Notional company, incl. downside shocks
Gearing (net debt/RAV) (%)	58%	58%
AICR (x)	1.52	0.96
FFO (interest expense)/ net debt (%)	10.7%	9.0%
RCF/net debt (%)	8.3%	6.7%

Note: The downside shocks have been modelled using a reduction of 2.17% in Ofgem's allowed equity return. The above scenarios assume CPIH inflation. All metrics are simple averages over RIIO-2.

Source: Oxera analysis.

Conclusions

Ofgem has concluded that the RIIO-2 Draft Determinations are financeable for SHE-T on the basis of Ofgem's assumptions about the notional capital structure. We have identified multiple concerns with this analysis and find that the evidence does not support a conclusion that the Draft Determination for SHE-T meets the requirements of the financeability duty. In particular:

- two key assumptions for modelling credit metrics (proportion of index-linked debt and gearing) have been changed since the SSMD in a direction that gives the appearance of improved financeability without making any changes to revenue allowances, suggesting that these assumptions are endogenous to the financeability assessment rather than grounded in external evidence;
- Ofgem's assumption for the proportion of debt that is index-linked is heavily distorted by one company. Removing National Grid significantly reduces the industry average. Neither SHE-T nor SPTL had any index-linked debt in 2017/18;
- the 55% notional gearing assumption is not consistent with the average actual gearing level observed in the market (62%), and seems to be driven

by the objective of giving the appearance the notional company is financeable rather than being grounded in evidence external to the financeability assessment;

- Ofgem's PCFM indicates that the SHE-T notional company has to 'gear up' in order to maintain a 3% notional dividend yield. This means that SHE-T would not be able to pay its notional 3% dividend yield, as assumed by Ofgem, and is indicative of a fundamental deficit in the allowed return on capital;
- the advancement of revenues from future price controls by changing indexation from RPI to CPIH has significantly increased credit metrics for RIIO-2, thereby masking the underlying financeability problem;
- the allowed equity return (3.70% CPIH, real) is insufficient and significantly lower than the RIIO-2 cost of equity range of 5.27–6.23% (CPIH, real) at 55% notional gearing found by the Oxera report for the ENA. The allowed equity return includes a 22bp reduction as an 'outperformance adjustment', which suffers from several estimation issues and acts against the consumer interest by eroding dynamic efficiency incentives;
- Ofgem's TOTEX allowances are too low as a result of Ofgem's cost assessment framework, which removes the impact of potential positive modelling errors but retains the impact of negative modelling errors by applying the most stringent benchmark available. In combination with Ofgem's incentives and risk-sharing mechanisms, this means that the overall balance of risk and reward in the RIIO-2 package is subject to a negative skew. The combination of the outperformance adjustment and the Business Plan Incentive (BPI) means that even if Ofgem's base TOTEX allowance accurately reflects the P50 of the cost distribution, SHE-T would need to outperform by 21% to generate the base return. This has not been factored in to Ofgem's financeability analysis.

Unmasking these issues shows that the true AICR would be much lower than presented in the Draft Determination absent the transition to CPIH indexation and based on assumptions for gearing and index-linked debt that are consistent with evidence sourced from outside the financeability assessment. Therefore, the rating of the notional company will be much lower than BBB+/Baa1.

A credit rating downgrade will increase the cost of borrowing for the company, creating a mismatch with the allowed cost of debt which is based on the iBoxx Utilities index, the constituents of which have, on average, credit ratings of BBB+/Baa1. This implies that Ofgem's allowed WACC and the actual cost of capital are internally inconsistent, breaching Ofwat's financeability duty to ensure that investors earn an appropriate rate of return on their investments.

1 Introduction

SHE-T has asked Oxera to comment on Ofgem's approach to assessing financeability as part of its RIIO-2 Draft Determinations.

Ofgem uses the financeability assessment as a check to ensure that an efficient company, given all the components of the determination that it has been given, can generate sufficient cash flow to meet its financing need. In the Draft Determinations, Ofgem concludes that SHE-T is financeable on the basis of the notional capital structure taking account of the allowed costs, cost recovery and allowed returns.

This report is intended to provide a detailed review of Ofgem's methodology and provide additional analysis of the financeability of the SHE-T notional company where we consider that it is appropriate to amend or add to Ofgem's analysis. We also explicitly consider equity financeability.

Section 2 of the report considers the purpose of regulatory financeability tests and establishes a set of principles that should underpin the assessment of financeability for RIIO-2.

The remainder of the report sets out areas where Ofgem has not adhered to these principles and is structured as follows:

- section 3 discusses Ofgem's approach to debt financeability, in terms of the target credit rating and metrics that are considered in its analysis;
 - section 4 considers how Ofgem has defined the notional company for SHE-T and shows that its approach has had the effect of artificially enhancing the credit ratios on paper;
 - section 5 covers key concerns regarding equity financeability;
 - section 6 discusses the links between the financeability assessment, the assessment of allowed expenditure, and the asymmetry of risk under the RIIO-2 framework;
 - section 7 concludes.
-

2 Purpose and principles of the financeability test

In the UK, economic regulators typically have a statutory duty to ensure, or have regard to, the ability of the regulated company to finance its functions. Section 3A of the Electricity Act 1989 requires Ofgem to have regard to ‘the need to secure that licence holders are able to finance the activities which are the subject of obligations imposed.’⁸

In light of their financing duties, economic regulators conduct financeability tests to assess the capacity of the regulated business to finance its day-to-day operations and capital investments under the terms of the price control settlement. There are generally considered to be two legs to financeability:⁹

- allowing an efficient, well-run company to earn a rate of return that is commensurate with the cost of capital;
- providing sufficient revenues to enable an efficient, well-run company to raise finance from capital markets readily and on ‘reasonable’ terms.

The assessment of financeability is a critical component of ensuring that a price control is in the public interest given the potentially significant costs to users (and society) if the company experiences financial distress or incentives to make efficient investments are diluted.

In this section, we consider the principles that should underpin the assessment of financeability for a regulated network. In particular, we set out that:

- it is important that financeability is assessed using an appropriate set of metrics (covering both debt and equity) and thresholds (section 2.1);
- where the analysis is conducted on the basis of a notional company, the notional company needs to be defined in a robust way (section 2.2);
- sensitivity analysis should be used to test the capacity for the company to absorb downside shocks, including the risk that this is the result of regulatory error (section 2.3);
- for sectors with long asset lives, the financeability assessment should take account of long-term financial viability, particularly in light of any implicit or explicit reprofiling of cash flows (section 2.4).

Section 2.5 brings this together as a set of principles for Ofgem’s RIIO-2 financeability assessment. The remainder of this report then considers the extent to which Ofgem has adhered to these principles in its assessment of financeability.

2.1 Financeability needs to be assessed against appropriate benchmarks

To assess whether companies are able to access capital markets on ‘reasonable terms’, regulators tend to consider financeability in terms of the company’s ability to maintain a target credit rating. This rating is based on the credit rating agencies’ assessment of a company’s business fundamentals and cash-flow metrics.

⁸ UK Government (1989), ‘Electricity Act 1989’, section 3A.

⁹ See, for example, Ofgem (2010), ‘Regulating Energy Networks for the Future: RPI-X@20: Emerging Thinking – Embedding financeability in a new regulatory framework’, 20 January, para. 3.1.

- **What is the target credit rating?** Regulators generally accept that a financeable company should be able to secure a 'comfortable/solid' investment-grade credit rating.¹⁰ This reflects the fact that borrowing costs tend to be much higher for firms with sub-investment-grade ratings. The definition of a 'comfortable/solid' investment-grade rating has been interpreted in different ways and regulators have increasingly relied on companies to provide their own analysis and assurance around the appropriate target rating. However, it has been common practice across companies (and regulators) to target a credit rating two notches above investment grade (i.e. BBB+/Baa1).¹¹

A further consideration is that there should be consistency between the assumptions about the target credit rating in the financeability test and the rating underpinning the calculation of the efficient cost of debt. For RIIO-2, consistency with the proposed cost of debt index would imply that the notional company would be expected to target a Baa1 rating.¹²

- **Which benchmarks should be considered and what weight should be placed on them?** A core part of the analysis of financeability is typically to look at credit ratios used by rating agencies. The rating agencies give more weight to certain ratios in their rating determinations. For electricity networks, the main metrics include interest cover ratios, gearing, FFO/net debt and debt/EBITDA.¹³ It is good regulatory practice for regulators to consider the same credit ratio definitions as used by credit rating agencies, given that it is the agencies that ultimately determine creditworthiness within capital markets.¹⁴

While credit ratios are an important factor in assessing financeability, credit rating agencies take account of a wider set of factors (see Table 1.1 below) and therefore the assessment should be wider than just credit ratios. Moreover, credit ratios provide an indication of debt financeability but not equity financeability—i.e. the extent to which the price control provides an equity return that appropriately remunerates investors given the risk of the investment. Given that networks finance themselves through a combination of debt and equity, this is an important component of meeting the financing duty. It is therefore also relevant to consider the adequacy of the equity return and other equity metrics.

¹⁰ For example, in RIIO-1 Ofgem stated that: 'We define financeability as an efficiently managed company geared at the notional level achieving credit metrics that are consistent with a 'comfortable investment grade' credit rating (BBB-A range) and exhibiting stable equity metrics.' Ofgem (2012), 'RIIO-T1: Initial Proposals for SP Transmission Ltd and Scottish Hydro Electric Transmission Ltd', p. 45, para. 5.29.

¹¹ Indeed, as noted by Ofgem, all networks assured their business plans on the basis of a target rating of at least BBB+/Baa1. Ofgem (2020), 'RIIO-2 Draft Determinations—Finance Annex', 9 July, p. 95, para. 5.6. Similarly for PR19, all water companies assessed notional company financeability in terms of BBB+/Baa1, and this was the basis of Ofwat's assessment. See Ofwat (2019), 'PR19 final determinations: Aligning risk and return technical appendix', December, p. 67.

¹² Ofgem is proposing to use the iBoxx 10+ utilities index for the purposes of indexing the cost of debt. 35% of the constituent bonds are A-rated.

¹³ See, for example, Moody's (2017), 'Rating methodology: Regulated electric and gas networks', 16 March.

¹⁴ For example, the CMA observed in the Bristol Water redetermination that: 'In assessing financeability, it is good regulatory practice to consider the views of the credit rating agencies, and by implication, the financial ratios they partially base their views on.' Competition and Markets Authority (2015), 'Bristol Water plc: A reference under section 12(3)(a) of the Water Industry Act 1991', 6 October, p. 348, para. 11.24.

Table 2.1 Moody's' rating methodology for regulated energy networks

	Factor weighting	Sub-factors
Regulatory framework and asset ownership model	40%	Stability and predictability of regulatory regime (15%) Asset ownership model (5%) Cost and investment recovery (ability and timeliness, 15%) Revenue risk (5%)
Scale and complexity of capital programme	10%	
Financial policy	10%	
Leverage and coverage	40%	(FFO + Interest Expense) / Interest Expense (10%) Net debt/RAB (12.5%) FFO/net debt (12.5%) RCF/net debt (5%)

Source: Moody's (2017), 'Rating Methodology Regulated Electric and Gas Networks, 16 March, p. 4.

- **What are the minimum thresholds for these measures / what is deemed to be a financeability issue?** Credit ratings agencies provide guidance on minimum thresholds for key ratios. There is typically a degree of flexibility around lower bounds for individual ratios (rather than a 'hard' floor) but these guidelines provide a strong indication of what is likely to constitute a financeability concern. For example, the CMA has previously set out target ratios that it considered to be consistent with a Baa1/BBB+ rating in the Northern Ireland Electricity (2014) redetermination (see Table 1.2). The CMA noted that these ratios reflected its:

view of the target levels for the individual credit risk financial ratios that should, taken together, form part of our assessment of whether the efficient licence holder would be able to finance the RP5 price control. Our assessment of financeability considers the average of these credit ratios over the remaining period of the price control and does not focus on one specific credit ratio more than another.¹⁵

Table 2.2 CMA precedent on target credit ratings for Northern Ireland Electricity

	Target ratio averaged over the period
PMICR	1.4 or more
FFO/net interest payable	3.5 or more
FFO/net debt	10% or more
Gearing	70% or less

Source: Competition Commission (2014), 'Northern Ireland Electricity Limited price determination: A reference under Article 15 of the Electricity (Northern Ireland) Order 1992', Final Determination, Table 17.4.

¹⁵ Competition Commission (2014), 'Northern Ireland Electricity Limited price determination: A reference under Article 15 of the Electricity (Northern Ireland) Order 1992', Final Determination, p. 17-15, para. 17.73.

- It is also relevant to consider trends over time—for example, passing the ratios on average for a price control but with a downward trend may be a reason for concern. This means that the assessment of whether a company is financeable is not a mechanistic ‘pass/fail’ test. Rather, regulators need to consider the likelihood that the notionally efficient firm is financeable and whether this represents an acceptable level of risk to comply with the financing duty.

In setting a price control, the regulator’s objective should not be to set allowances at the minimum level required to achieve the minimum thresholds for a solid investment-grade credit rating. The regulator should determine the required expenditure and an appropriate overall return on capital, including on equity, and check that this at least meets the minimum thresholds. However, reaching the minimum Baa1 thresholds is a necessary but not sufficient condition to be financeable.

The target rating, the weight that is placed on different metrics and the assessment of what is financeable could vary under particular circumstances. For RIIO-ET2, it is relevant to take account of the fact that electricity transmission networks are undertaking significant capital investment programmes (see Box 2.1). This might influence both the ratios that are considered and the minimum threshold for what is deemed to meet the financeability standard. In particular, this would point towards setting a high threshold for what is considered to be financeable given the potential costs to current and future consumers if transmission networks were to face challenges in financing this capital expenditure (CAPEX) or the cost of borrowing were to increase.

Box 2.1 Financeability issues may be exacerbated for non-steady-state companies

Capital investments in regulated networks are recouped over the life of the assets due to the large-scale and long-lived nature of these investments. Ultimately, investors would be expected to be primarily interested in the returns they can earn after allowing for inflation and tax. Inflation needs to be taken into account to ensure that the real value of the capital invested is preserved over time. In practice, regulators adopt one of two primary approaches to the treatment of inflation in the price determination process:

- *real weighted average cost of capital (WACC) applied to an indexed RAV*—in this approach, the RAV is indexed each year by a price index (i.e. CPIH in the case of RIIO-2). In this case, a real rate of return is applied to the asset base;
- *nominal WACC without RAV indexation*—an alternative approach that incorporates the effect of inflation into the allowed rate of return by setting a nominal cost of capital. There is no indexation of the asset base in this case.

Over the lifetime of the assets, despite their long-term nature, either approach should yield the same net present value (NPV) of cash flows. However, a key difference between the two alternatives is the timing of cash flows. This is a crucial consideration in ensuring companies are able to effectively finance their operations.

Ofgem applies a real WACC and indexed RAV approach in the price determination process for electricity transmission networks under RIIO-2. The advantage of this approach is that the regulatory depreciation allowance is constant in real terms for each year that the asset remains in the asset base (assuming straight line depreciation). However, the consequence is a cash-flow deficit: a company’s cash outflows in the form of interest to debt holders are relatively ‘front-end loaded’, while

cash inflows through the allowed return to remunerate the capital investments are relatively 'back-end loaded'.

This issue is exacerbated when combined with substantial capital investment requirements such that the RAV increases more rapidly than it depreciates. As substantial new injections of debt finance are required to finance capital investments, the growth in cash outflows for debt repayments exceed cash inflows, potentially leading to a negative cash-flow position for a substantial portion of the investment horizon. It is therefore important as part of the financeability assessment to consider the capital investment requirements of each regulated network.

Source: Oxera.

2.2 The notional company should be robustly defined

A second key aspect of regulatory financeability tests is the assumptions that are made about the financial structure of the business. The analysis can be conducted on the basis of the company's actual financial structure or by considering the financial structure of a notionally efficient company. Ofgem considers that financeability should be assessed on the basis of the notional company, so as not to take account of any inefficiencies in companies' actual financing decisions.¹⁶ This requires assumptions about the optimal financing structure in terms of gearing, debt portfolio, and so on.

For the financeability assessment to be meaningful, the notional company should be 'exogenously' defined based on robust evidence of the notionally efficient financing structure. This is important as there may be a temptation for regulators to alter the definition of the notional company as a means of improving ratios. For example, assuming a lower notional gearing will generally make credit metrics look more favourable. However, it is important to recognise that this does not improve underlying financeability (i.e. it does not affect the company's allowed revenues), it merely changes the definition of what is financeable. We cover issues in Ofgem's definition of the notional company in section 3.

2.3 A financeable company should be resilient to plausible downside scenarios

In addition to considering whether the company is financeable on the assumption that it meets the base regulatory cost allowances and incentive targets, regulators and companies often 'stress test' the settlement against plausible downside scenarios. These downside scenarios might include shocks to income or expenditure, or penalties from regulatory incentive mechanisms.

In line with regulatory precedent, we consider that this is an important component of financeability and that, under the financing duty, regulators should seek to ensure that companies have sufficient financial headroom to (i) absorb downside shocks or (ii) withstand estimation error by the regulator in setting the price control (e.g. an unachievable efficiency target). While rating agencies are likely to focus on the former (i.e. they will assess creditworthiness on the basis that the company is able to meet its price control obligations), this latter component is also important as, in practice, the company's financeability will be shaped by its ability to meet the regulatory targets.

¹⁶ Companies were, however, required to assure the financeability of their business plans on both a notional and an actual company basis.

Box 2.2 Precedent for financeability ‘stress tests’**Competition Commission—BAA**

In past airport decisions, the Competition Commission interpreted the financeability duty as the need for the company to be in a position to absorb unanticipated downside risk and still retain an investment-grade credit rating:

We considered that the airports should have regular access to the debt markets and this can be most easily achieved if they maintain investment grade credit ratings. There should also be some headroom in the rating, so that in the event of a downside shock the airports do not immediately slip to non-investment grade ratings. We therefore consider that our gearing assumption should enable the airports to maintain a solid or comfortable investment grade rating. We consider this to be a BBB+/Baa1 rating.¹⁷

Civil Aviation Authority—Heathrow

The CAA has adopted a similar position in more recent price controls.

The aim of the financeability assessment is for HAL to be in a position to absorb reasonable unanticipated downside risk and still retain an investment grade credit rating.¹⁸

Competition and Markets Authority—Bristol Water

In its findings in the Bristol Water inquiry, the CMA explicitly stated that it ‘consider[s] it good regulatory practice to consider the impact of downside shock on financial ratios.’¹⁹

Source: Oxera analysis of regulatory determinations.

2.4 Long-term financeability, as well as short-term cash flows, is an important consideration

Ofgem’s principal objective under the Electricity Act 1989 section 3A(1) is to protect the interests of existing *and future* consumers.²⁰ The Act states that this objective should be achieved having regard to the financing duty. It therefore follows that the assessment of financeability should take account of the interests of, and impacts on, both current and future consumers.

The long-term investment horizon for electricity networks with asset lives extending to 45 years requires a sustainable approach to financing. The company’s long-term financial viability is therefore a relevant consideration in testing whether the price control settlement acts in the public interest by discharging the financing duty.

Although Ofgem focuses its analysis on the RIIO-2 control period, it agrees with the importance of considering the long-term implications:

We invite network companies to submit any concerns they may have over longer-term notional or actual financeability as part of their business plan submissions...If financeability concerns are identified in the long term we would need to consider whether these concerns need to be addressed as part of the

¹⁷ Competition Commission (2007), ‘BAA Ltd, A report on the economic regulation of the London airports companies (Heathrow Airport Ltd and Gatwick Airport Ltd), September, para. 67.

¹⁸ Civil Aviation Authority (2013), ‘Economic regulation at Heathrow from April 2014: final proposals’, para. 10.23.

¹⁹ Competition and Markets Authority (2015), ‘Bristol Water plc: A reference under section 12(3)(a) of the Water Industry Act 1991’, 6 October, p. 356, para. 11.52.

²⁰ UK Government (1989), ‘Electricity Act 1989’, section 3A(1).

RIIO-2 price control or whether they are better assessed at the relevant future price control in light of market conditions at that time.²¹

This is of particular relevance to the RIIO-2 determination for two reasons.

- First, Ofgem adopts a TOTEX approach to cost recovery, in which the capitalisation rate affects the profile of revenues and cash flows.
- Second, indexation of the RAV is transitioning from RPI to CPIH.

Both of these adjustments could bring forward revenues from future control periods. Given the potential impact for the company and customers in the future, it is therefore important to understand the implications of these adjustments for subsequent price reviews. In particular, there is a risk that these adjustments 'hide' a RIIO-2 financeability constraint that is caused by inadequate cost allowances or return, thereby shifting the problem into the future.

Ofgem has stated that it is not possible to model beyond the current price control given uncertainty around future parameters. Despite this, it has suggested that it is confident that its approach does not create future issues. It is therefore not clear how Ofgem has arrived at its conclusion.

We agree that considering trends and implications for financeability in the longer term is a consideration, however by definition a detailed financeability assessment can only be conducted for the upcoming price control due to, parameters beyond this not being known. We have considered financeability beyond the RIIO2 price control and do not consider that the current approach creates future issues.²²

While we agree that the parameters beyond the RIIO-2 price control are not yet determined, this does not prevent Ofgem from using a plausible set of assumptions and sensitivities to model financeability in the long term. Ofgem does not appear to have considered this.

2.5 Implications for RIIO-2 financeability assessment

In line with the principles outlined above, the assessment of financeability for electricity transmission networks should:

- consider financeability from the perspective of both debt and equity investors;
- take account of RIIO-2-specific factors, particularly the scale of required investment;
- seek to secure that networks can maintain a minimum credit rating of BBB+/Baa1 (and supplement this with assessment of equity financeability);
- consider the same credit ratio definitions as used by credit rating agencies;
- provide evidence that the notional company represents a reasonable, 'exogenously determined' view of the notionally efficient company;
- provide a transparent assessment of the likelihood that the notionally efficient firm is financeable based on a clear set of criteria and taking account of sensitivity analysis;

²¹ Ofgem (2019), 'RIIO-2 Sector Specific Methodology Decision – Finance', para. 4.31.

²² Ofgem (2020), 'RIIO-2 Draft Determinations—Finance Annex', 9 July, p. 210.

-
- explain how Ofgem has reached the view that this represents an acceptable level of risk;
 - consider the long-term financeability impact of the RIIO-2 settlement.

In the remainder of this report, we highlight aspects of Ofgem's approach to assessing financeability that are inconsistent with these principles.

3 Ofgem's approach to debt financeability

In section 2, we set out our view that the RIIO-2 financeability assessment should:

- seek to secure that networks can maintain a minimum credit rating of BBB+/Baa1 (and supplement this with assessment of equity financeability);
- consider the same credit ratio definitions as used by credit rating agencies.

In this section, we review Ofgem's approach to the minimum credit rating and its definition of credit ratios. First, we find that Ofgem has not applied any explicit minimum threshold for RIIO-2 financeability but that it has nonetheless found that SHE-T should be able to maintain a credit rating of at least this level. Second, we summarise the differences in the credit ratios used by Ofgem and those used by credit rating agencies.

3.1 Target credit rating

For RIIO-2, all companies have undertaken their business plan assurance on the basis of achieving a BBB+/Baa1 rating (or higher in the case of SPT). Ofgem states that it 'does not target any particular rating or credit ratio'²³ and has instead 'completed an in the round assessment that targets each notional company being judged as broadly of comfortable investment grade credit quality.'²⁴ It has not provided guideline ranges for specific credit ratios and expresses its concerns with focusing on particular individual metrics (notably AICR and PMICR).²⁵ This approach means that Ofgem retains a considerable degree of regulatory discretion as to what represents a financeability concern.

Although Ofgem has not explicitly targeted BBB+/Baa1, we note its view that the notional company would be able to maintain a credit rating at this level and that it has provided simulated credit ratings in the PCFM in support of this position.

The table below compares the average credit metrics of Ofgem's notional company with the guidance issued by credit rating agencies for BBB+/BBB ratings. Note that our analysis for the notional company has replicated Ofgem's AICR of 1.52x and FFO/net debt of 10.7% as per Table 34 of the Finance Annex to the Draft Determinations.²⁶

Table 3.1 Average credit metrics during RIIO-2 vs indicative ranges for investment-grade credit ratings

Credit metrics	Fitch		Moody's		Notional company
	BBB+	BBB	Baa1	Baa2	
Net debt/RAV (%)	>60	70	60–75		58%
FFO interest cover (interest expense) (x)	<4.5	3.5	2.8–4.0		4.0
FFO interest cover (cash interest) (x)					4.8
AICR (x) ¹	<1.75	1.50	1.40 ¹	1.20	1.52
Nominal PMICR (x) ²					2.2

²³ Ofgem (2020), 'RIIO-2 Draft Determinations—Finance Annex', 9 July, p. 97, para. 5.13.

²⁴ Ofgem (2020), 'RIIO-2 Draft Determinations—Finance Annex', 9 July, p. 98, para. 5.21.

²⁵ Ofgem (2020), 'RIIO-2 Draft Determinations—Finance Annex', 9 July, p. 100, para. 5.26.

²⁶ Ofgem (2020), 'RIIO-2 Draft Determinations—Finance Annex', 9 July, p. 110, Table 34.

FFO (interest expense)/ net debt (%)	11–18	10.7%
FFO (cash interest)/ net debt (%)		11.3%
RCF/net debt (%)	9.0% ¹	8.3%

Note: ¹ We note that the threshold of 1.40x may not be strict and that the rating agencies may in some cases consider a threshold of 1.50x. ² This is based on recent guidance for National Grid plc. See Moody's (2020), 'Rating Action: Moody's changes outlook on National Grid plc and most subsidiaries to negative; affirms ratings', 14 August, p. 1.

Source: Fitch (2018), 'Corporate rating criteria Sector Navigators', p. 165; Moody's (2017), 'Rating Methodology Regulated Electric and Gas Networks, 16 March, p. 19; Moody's (2018), 'Regulated electric and gas networks – UK. Risks are rising, but regulatory fundamentals still intact', 29 May, p. 4.

It should be noted that the energy networks have had (and some still have) higher credit ratings (e.g. A-/A3) in the past, and even a target rating of BBB+/Baa1 would represent a downgrade relative to past/current levels in some instances.²⁷ This may have consequences when estimating the cost of capital. For example, at a lower target credit rating, the beta of National Grid (which is a key data point in Ofgem's beta estimation exercise) may be expected to increase relative to historical levels, and the debt spreads of downgraded energy networks would be expected to increase, driving an increase in yields on new debt raised by networks. This more generally points to the need to consider trends in credit ratios and other financeability benchmarks over time.

3.2 Ofgem's calculation of credit ratios differs from the credit rating agencies

Although Ofgem's financeability assessment follows a similar approach to that employed by the credit rating agencies, there are some differences in the construction of financial metrics. We compare Ofgem's metrics with those of the credit rating agencies in Table 3.2.

Table 3.2 Comparative review of Ofgem's financeability metrics

Metrics and formulas used by Ofgem and the credit rating agencies	Differences
Debt ratios	
Gearing	None
$\frac{\text{Net debt}}{\text{RAV}}$	
FFO interest cover (interest expense)	
Ofgem:	Ofgem's metric explicitly includes principal inflation accretion in the denominator, which is the increase in the value of index-linked debt due to increases in the inflation rate
$\frac{\text{FFO (pre cash net interest)}}{\text{Cash net interest + principal inflation accretion}}$	It is unclear formulaically how the credit rating agencies treat inflation-linked debt; however, both Moody's (2017) and Standard & Poor's (2013) mention that they make appropriate adjustments
Moody's (2017):	
$\frac{\text{FFO (pre cash net interest)}}{\text{Cash net interest}}$	
FFO interest cover (cash interest)	None
$\frac{\text{FFO (pre cash net interest)}}{\text{Cash net interest}}$	

²⁷ For example, NGET currently holds a credit rating of A3 as of 14 August 2020, albeit with a negative outlook. Moody's (2020), 'Moody's changes outlook on National Grid plc and most subsidiaries to negative; affirms ratings', 14 August.

Metrics and formulas used by Ofgem and the credit rating agencies**Differences****AICR**

Ofgem (2019):

$$\frac{FFO \text{ (pre cash net interest)} - RAV \text{ depreciation}}{Cash \text{ net interest}}$$

Moody's (2017):

$$\frac{FFO \text{ (pre cash net interest)} - non \text{ cash accretion} - capital \text{ charges}}{Cash \text{ net interest} - non \text{ cash accretion}}$$

Capital charges, such as regulatory depreciation, the excess of 'fast money' over operating expenditure (OPEX), and the excess of 'profiled revenue' over 'un-profiled revenue' are subtracted from FFO by Moody's

Non-cash accretion is deducted in the numerator, only to the extent that it has been included in FFO, and is deducted from the denominator, only to the extent that it has been included in interest expense

Nominal PMICR

Ofgem (2019):

$$\frac{FFO \text{ (pre cash net interest)} - RAV \text{ depreciation} + YoY \text{ RAV inflation}}{Cash \text{ net interest} + principal \text{ inflation accretion}}$$

Fitch (2018):

$$\frac{FFO \text{ (pre cash net interest)} \pm net \text{ working capital} - maintenance \text{ CAPEX}}{Cash \text{ net interest}}$$

Similar to the AICR, Ofgem subtracts RAV depreciation from FFO, but it is unclear whether it makes adjustments for other capital charges

Fitch takes a different approach by subtracting maintenance CAPEX and net working capital from FFO. Ofgem adds RAV inflation to FFO, and adds principal inflation accretion to the interest expense in the denominator

FFO/net debt (interest expense)

Ofgem (2019):

$$\frac{FFO \text{ (post cash interest)} - principal \text{ inflation accretion}}{Net \text{ debt}}$$

Ofgem's calculation of the metric includes an adjustment for principal inflation accretion in the numerator

Standard & Poor's (2013) and Moody's (2017):

$$\frac{FFO \text{ (post cash interest)}}{Net \text{ debt}}$$

FFO/net debt (cash interest)

Ofgem (2019):

$$\frac{FFO \text{ (post cash interest)}}{Net \text{ debt}}$$

Ofgem's calculation of the metric is the same as that of the credit rating agencies

Standard & Poor's (2013) and Moody's (2017):

$$\frac{FFO \text{ (post cash interest)}}{Net \text{ debt}}$$

RCF/net debt

Ofgem (2019):

$$\frac{FFO \text{ (post cash interest)} - dividends - principal \text{ inflation accretion}}{Net \text{ debt}}$$

Ofgem's calculation of the metric includes an adjustment for principal inflation accretion in the numerator

Moody's (2017):

$$\frac{FFO \text{ (post cash interest)} - dividends}{Net \text{ debt}}$$

RCF/CAPEX

n/a

Ofgem (2020):

$$\frac{FFO \text{ (post cash interest)} - dividends - principal \text{ inflation accretion}}{CAPEX}$$

Equity ratios**EBITDA/RAV**

n/a

Ofgem (2019):

$$\frac{EBITDA}{RAV}$$

Metrics and formulas used by Ofgem and the credit rating agencies

RORE

n/a

Ofgem (2019):

$$\frac{EBIT - \text{tax} - (\text{cost of debt} * \text{debt RAV})}{\text{Equity RAV}}$$

Dividend cover

Ofgem (2019):

$$\frac{\text{Profit after tax}}{\text{Dividends declared}}$$

Fitch (2018):

$$\frac{FFO (\text{post cash interest})}{\text{Dividends declared}}$$

Ofgem considers this metric from an accounting profit perspective, while the credit rating agencies work on a cash basis

Dividend/regulated equity

n/a

Ofgem (2019):

$$\frac{\text{Dividends declared}}{\text{Equity RAV}}$$

Notes: ¹ The PMICR is described as the ratio between cash flows from operations less maintenance CAPEX and net interest expense. Cash flows from operations are FFO plus net working capital. For a more detailed description of Fitch's definitions of cash-flow measures, see Fitch (2019), 'Corporates – Corporate Rating Criteria: Master Criteria', 19 February, p. 46.

Source: Oxera analysis; Moody's (2017), 'Rating Methodology Regulated Electric and Gas Networks', 16 March, p. 19; Fitch (2018), 'Corporates—Sector Navigator: Addendum to the Corporate Rating Criteria', March, p. 189; Standard & Poor's (2013), 'Corporate Methodology: Ratios and Adjustments', 19 November, p. 36; Fitch (2018), 'Corporates—Sector Navigator: Addendum to the Corporate Rating Criteria', March, p. 117; Ofgem (2019), 'Financeability assessment for RIIO-2: Further Information', 26 March; and Ofgem (2020), 'Draft Determinations – RIIO-ET2 Licence Model', July.

From the comparison of the formulas, it is not clear where there will be systematic differences between Ofgem's findings and those of the credit rating agencies. This is not least because the latter do not always set out explicitly what adjustments they will make formulaically. For example, in calculating the AICR, Moody's strips out any adjustments to the capitalisation rate compared with the natural rate based on the split of OPEX to TOTEX.²⁸

To account for regulatory decisions that alter the timing of cash flows, the credit rating agencies make adjustments to ratios—for example, through changes to asset lives, depreciation policy, capitalisation ratio, and revenue profiling.²⁹ Moody's (2017) states: '[t]he adjusted ICR attempts to normalize for these 'regulatory levers' by adjusting FFO by an amount of money ("Capital Charges") that can be influenced by regulatory decision making in the allowed revenue calculation'.³⁰ This is partly why changes to such assumptions as a tool to address financeability concerns may not be effective or practical.

In particular, Ofgem has acknowledged that both Moody's and Fitch tend to make adjustments to ratios when the capitalisation rate is not matched to the natural rate.³¹ It has cited Standard and Poor's as being more flexible in its approach and that the capitalisation rate therefore can be appropriate to 'solve' a financeability constraint. However, this is internally inconsistent with Ofgem's financeability assessment, which appears to be predominantly based on the Moody's rating methodology. In its PCFM, Ofgem includes a rating simulator based on the Moody's approach, and also says that Moody's is 'the most

²⁸ Moody's (2017), 'Regulated Electric and Gas Networks', 16 March, p. 19.

²⁹ Moody's (2017), 'Ratings Methodology for Regulated Electric and Gas Networks', 16 March, Appendix B.

³⁰ Moody's (2017), 'Ratings Methodology for Regulated Electric and Gas Networks', 16 March, Appendix B.

³¹ Ofgem (2020), 'RIIO-2 Draft Determinations—Finance Annex', 9 July, p. 186.

transparent and therefore replicable methodology of the three rating agencies'.³² We therefore remain of the view that changing 'regulatory levers' such as the capitalisation rate may not be effective or practical in addressing financeability concerns from the perspective of the credit rating agencies.

To the extent that Ofgem, in calculating credit metrics, does not make such adjustments itself, it may formulaically find an improvement in credit metrics which the credit rating agencies may then look through in their calculations. When the CMA considered this issue in Bristol Water (2015), it stated that actual rating agency metrics should be used and adjusted Ofwat's calculations accordingly.³³

³² Ofgem (2020), 'RIIO-2 Draft Determinations—Finance Annex', 9 July, p. 98, para. 5.21.

³³ 'We have adjusted some of the ratio calculations from Ofwat's original methodology to account for the credit ratings agencies' own methodologies. These adjustments result in weaker ratios than Ofwat estimated based on the same data. We consider that our approach was therefore cautious in the approach to measuring the projected level of the S&P ratios.' See Competition and Markets Authority (2015), 'Bristol Water plc', 6 October, p. 352, para. 11.35.

4 Debt financeability: Ofgem has altered the definition of the notional company to enhance credit metrics

In the Draft Determinations, Ofgem has focused on assessing financeability for a notional company. As set out in section 2.2, for an assessment of notional company financeability to be meaningful, the notional company needs to be constructed in a way that reflects the optimal financial structure. Where changes are made to the notional company, these should be supported by market evidence and reflect an ‘exogenous’ view of the notionally efficient company.

In this section, we review the SHE-T notional company as defined by Ofgem for the purposes of assessing financeability, and highlight where these have changed since the SSMD. We show that these changes, which are not clearly supported by new evidence, have the effect of artificially enhancing credit ratios and therefore making the SHE-T notional company look more financially resilient on paper.

4.1 Ofgem’s definition of the SHE-T notional company

Table 4.1 sets out the assumptions used by Ofgem in assessing financeability for the SHE-T notional company at the Draft Determinations. The SHE-T notional company differs from other electricity transmission networks because of the RAV-weighted debt index that is solely applied to SHE-T in the Draft Determinations and the company-specific assumptions around capitalisation rates and depreciation profiles.

Table 4.1 Assumptions underpinning Ofgem’s assessment of the financeability of the SHE-T notional company

Parameter	Ofgem assumption
Allowed return on equity	3.70% (with expected outperformance of 0.22%) Assumes that the notional company achieves the 0.22% outperformance
Allowed cost of debt	1.47% (based on RAV-weighted index)
Index-linked debt	30% of debt is assumed to be CPIH-linked
Gearing	55% notional gearing
Inflation	Immediate transition to CPIH for WACC and RAV calculations
Dividend yield	Dividend yield assumed at 3% of regulatory equity
Capitalisation rate	81% capitalisation rate
Depreciation	Asset life phased increase to 45 years through RIIO-2 for post-vesting assets
Incentives (TOTEX, business plan, outcomes)	No BPI awards or penalties Lagged revenue impacts arising from RIIO-1 are excluded
Equity issuance transaction costs	5.0% (although we understand this does not apply to SHE-T given its current gearing)

Source: Oxera based on Ofgem (2020), ‘RIIO-2 Draft Determinations—Finance Annex’, 9 July, pp. 98–99.

Critically, Ofgem has made a number of changes to the working assumptions outlined in the SSMD. We consider these assumptions in turn below. The impact is generally to enhance credit ratios for a given set of price control parameters. This runs the risk that certain assumptions become ‘endogenous’

to the analysis—i.e. they may be adjusted in order to ‘solve’ the financeability constraint.

4.2 Index-linked debt

In its modelling of the notional company for the Draft Determinations, Ofgem assumes that 30% of debt is index-linked to CPIH inflation. This represents a change from the SSMD working assumption of 25%.³⁴ Ofgem justifies this as follows:

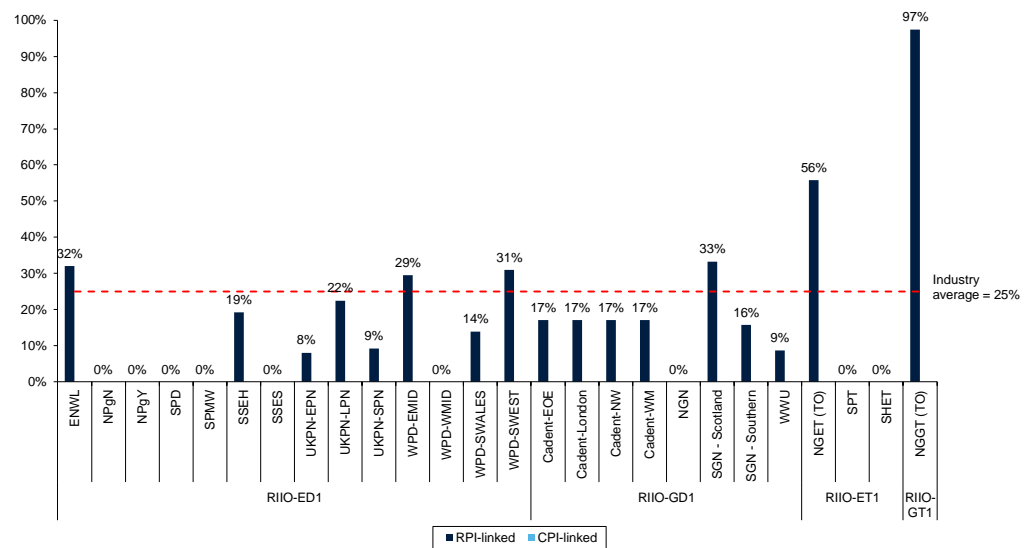
This change in assumption is based on analysis of Business Plan submissions which indicate that 37% of externally raised GD&T company debt (pre derivatives) is inflation linked as at FYE 2019. An assumption of 30% is closer to the assumption of 33% used by Ofwat and does not require an assumption that a matching proportion of future debt would be inflation linked to be a valid assumption overall.³⁵

Ofgem has not disclosed its analysis of business plan submissions. There is no clear evidence to support the conclusion that this assumption is appropriate for the electricity and gas sectors as a whole. Indeed, analysis of Ofgem’s 2019 Regulatory Financial Performance Reporting (RFPR) data (see Figure 4.1 below) shows that:

- the weighted average index-linked debt across the industry was around 25% in 2017/18;
- the industry average is inflated by National Grid, which has a high proportion of index-linked debt;
- National Grid Gas Transmission has a particularly high proportion of index-linked debt (97%), such that including NGGT in the analysis significantly inflates the industry average;
- there is a wide range of index-linked debt between companies, and nine companies do not have any index-linked debt (including SHE-T and SPTL, two of the three electricity transmission networks);
- across the ET, GT, ED, and GD sectors, there was no CPI-linked debt issuance in 2017/18.

³⁴ Ofgem (2019), ‘RIIO-2 Sector Specific Methodology Decision – Finance’, 24 May, para. 4.109.

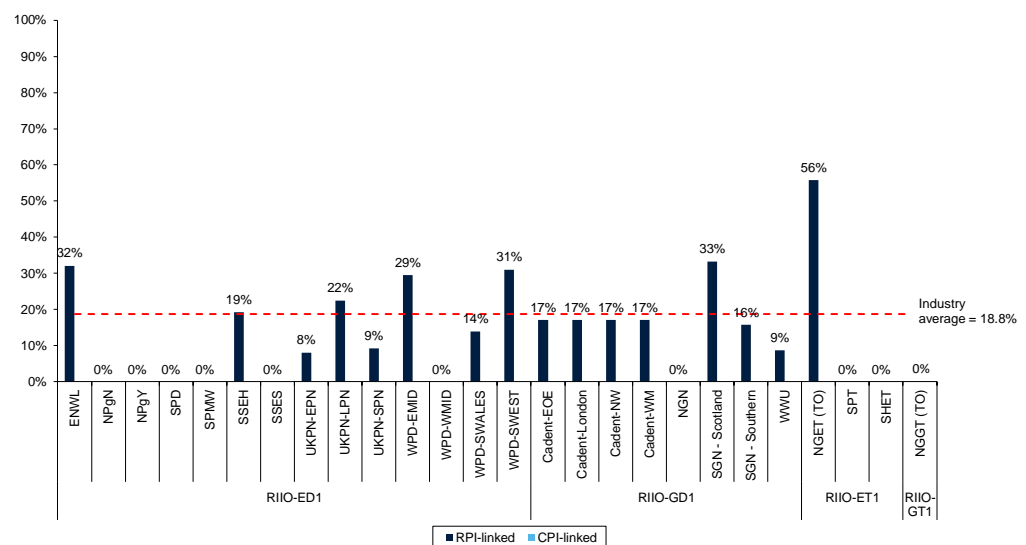
³⁵ Ofgem (2020), ‘RIIO-2 Draft Determinations—Finance Annex’, 9 July, p. 99.

Figure 4.1 Companies' index-linked debt for RIIO-1 (2017/18)

Note: The industry average is calculated as the weighted average of RPI-linked debt as a proportion of total net debt in 2017/18.

Source: Oxera analysis based on RFPR 2017/18 data.

Our analysis shows that the weighted average index-linked debt across the industry falls to 18.8% when NGGT is excluded from Ofgem's calculation (Figure 4.2). If NGET were also dropped from the analysis, the industry average would drop below 10%. Ofgem's SSMD working assumption of 25% index-linked debt is therefore not supported by reasonable robustness tests of the evidence. It is incorrect for Ofgem to increase the assumption to 30% based on this evidence. This error has a material impact on the financeability assessment, as highlighted in Table 4.2.

Figure 4.2 Companies' index-linked debt for RIIO-1, excluding NGGT (2017/18)

Note: The industry average is calculated as the weighted average of RPI-linked debt as a proportion of total net debt in 2017/18, excluding NGGT.

Source: Oxera analysis based on RFPR 2017/18 data.

Ofgem has also not presented any evidence, either in the SSMD or the Draft Determinations, on the availability of CPIH-linked debt to support the financeability assessment of the notional company. It has also not presented any evidence on the equivalence of swapping RPI index-linked debt using CPIH swaps, nor has it provided an allowance for the cost of this transaction. In response, Ofgem argues:

Given actual companies in the sector have embedded RPI linked debt we do not consider it obvious that the notional company should be assumed to have CPIH linked debt rather than RPI linked debt. However, for financeability purposes we suggested this assumption in the first instance as it would lead to more conservative financeability results. We do not consider it necessary for companies to switch RPI linked debt into CPIH debt just because RAV and allowances will be CPIH linked. In a normal corporate financing structure (as distinct from for example project financings that tend to have much higher gearing) the equity buffer can absorb any inflation mismatches, as it has done historically between majority notional debt and RPI RAV inflation. We therefore do not consider it necessary to present evidence regarding the availability of CPIH swaps.³⁶

This argument relies on the assumption that it has been cautious in its implementation of index-linked debt for the financeability assessment and that any mismatches in inflation can be absorbed by the equity buffer. However, our analysis indicates that Ofgem has not been cautious in its calculation of index-linked debt for the notional company. The inflation mismatch that arises through using RPI-linked debt has a more material impact on the equity buffer when using 30% index-linked debt compared with lower proportions. We therefore do not agree with Ofgem's judgement and remain of the view that Ofgem has not correctly considered the costs of changing the index-linked debt assumption.

Ofgem's working assumption on index-linked debt is internally inconsistent with its allowance for a bespoke cost of debt mechanism for the SHE-T notional company. On index-linked debt, Ofgem has set the working assumption relative to an analysis of the industry. On the cost of debt, Ofgem has calibrated its allowance relative to SHE-T's actual RAV over RIIO-2. This inconsistency further suggests that Ofgem's assumptions have become 'endogenous' to achieve a desired set of outcomes, rather than on the basis of robust and consistent evidence. If Ofgem's logic on the cost of debt is reflected in the index-linked debt assumption, then the appropriate level of index-linked debt is 0% as SHE-T does not have any index-linked debt at 2017/18 (Figure 4.1 and Figure 4.2).

To assess the impact of Ofgem's revised assumption, we have recalculated the credit ratios for the SHE-T notional company under Ofgem's working assumptions, changing only the proportion of index-linked debt (Table 4.2). Ofgem's decision to increase the proportion of index-linked debt from 25% to 30% between the SSMD and Draft Determinations has the effect of increasing the AICR from 1.47x to 1.52x. We note that the AICR falls to 1.38x, below the threshold of 1.40x for a Baa1 credit rating, if the level of index-linked debt is 15% for the SHE-T notional company. Our analysis indicates that the assumed level of index-linked debt has a material influence on the financeability assessment. This highlights the importance of the debate around the appropriate proportion of index-linked debt of the SHE-T notional company.

³⁶ Ofgem (2020), 'RIIO-2 Draft Determinations—Finance Annex', 9 July, p. 186.

Table 4.2 Impact of varying the index-linked debt assumption for the SHE-T notional company in RIIO-2

Key credit metrics	Index-linked debt 30%*	Index-linked debt 25%	Index-linked debt 15%	Index-linked debt 0%
Gearing (net debt/RAV) (%)	58%	58%	58%	58%
AICR (x)	1.52	1.47	1.38	1.26
FFO (interest expense)/net debt (%)	10.7%	10.7%	10.7%	10.7%
RCF/net debt (%)	8.3%	8.3%	8.3%	8.3%

Note: * This is Ofgem's assumption for the notional company. Our analysis has replicated Ofgem's AICR of 1.52x and FFO/net debt of 10.7% as per Table 34 of the Finance Annex to the Draft Determinations. The above scenarios assume CPIH inflation. All metrics are simple averages over RIIO-2.

Source: Oxera analysis.

4.3 Gearing

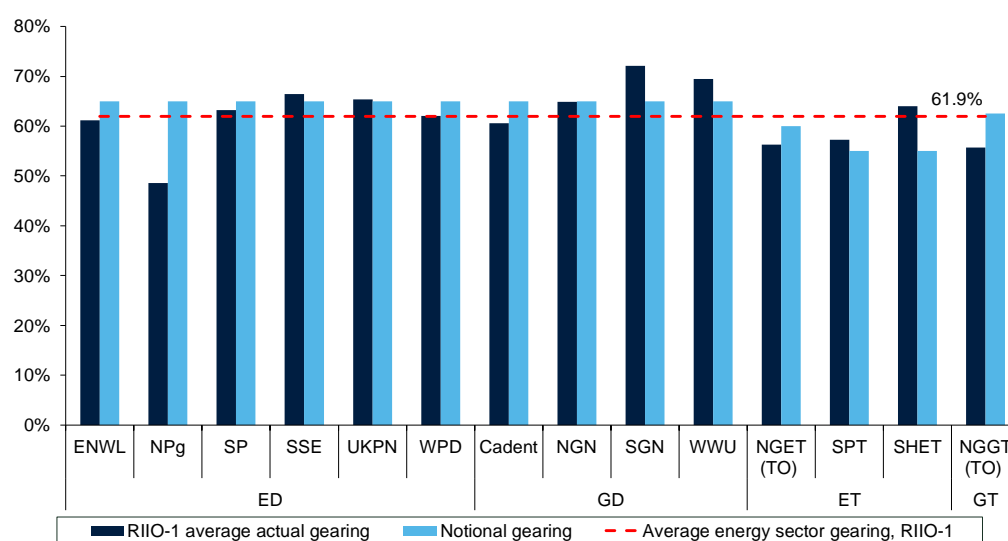
In the SSMD, Ofgem proposed that the electricity transmission networks adopt a notional gearing assumption of 60% when assessing financeability. It noted its view that adjustments to the notional gearing level are a potential means of addressing financeability concerns.

For the Draft Determinations, Ofgem began its financeability analysis using the 60% notional gearing level.³⁷ It then tested whether there was sufficient headroom against credit ratios at this level of gearing and found that there was not sufficient headroom for any of the electricity transmission networks.³⁸ As a result of this analysis, it has changed the notional gearing assumption to 55% for electricity transmission networks. This means that, rather than being an input into the financeability assessment, the notional gearing level is effectively calculated 'endogenously' as part of the analysis. Ofgem therefore uses the notional gearing as a modelling assumption to achieve a certain level of credit ratios.

This goes to the heart of the questions 'what is the purpose of the financeability test?' and 'what is the notionally efficient company intended to represent?'. The notional gearing assumption should represent an efficient level of gearing. It ought to be set exogenously and should not be endogenous to a company's financeability outcome, otherwise there is no constraint on reducing the notional gearing assumption. Evidence from the average actual level of gearing for energy companies over RIIO-1 and for SHE-T supports a notional gearing assumption of approximately 60% (Figure 4.3).

³⁷ Ofgem (2020), 'RIIO-2 Draft Determinations—Finance Annex', 9 July, p. 107, para. 5.46.

³⁸ Ofgem (2020), 'RIIO-2 Draft Determinations—Finance Annex', 9 July, p. 109, Table 33.

Figure 4.3 Actual gearing for energy companies over RIIO-1

Note: The 61.9% average energy sector gearing for RIIO-1 is a simple average.

Source: Oxera analysis of Ofgem (2020), 'Supporting data file to Regulatory financial performance annex to RIIO-1 Annual Reports - 2018-19', 7 February.

The CMA also looked at the issue of gearing in the context of the NATS appeal. It decided that the notional gearing should be set based on the average actual gearing of companies, provided that this was (i) in line with forecasts of actual gearing over the next price control period; (ii) appeared reasonable, taking into account the evidence on financeability; and (iii) did not result in a higher cost of capital. Ofgem's SSMD notional gearing assumption of 60% and our analysis of actual gearing over RIIO-1 (Figure 4.3) provide support for (point i). We have already explained that a notional gearing structure should not be endogenous to a company's financeability outcome (point ii)). It is also well established in regulatory precedent and corporate finance theory that the cost of capital is independent from gearing (point iii)).

It is also important to consider why Ofgem set the notional gearing assumption at 55% for RIIO-1. The notional gearing assumption of 55% was considered appropriate given the capital-intensive nature of the price control. In fact, the SHE-T RAV grew approximately 3x over the eight-year period.³⁹ SHE-T had a low opening RAV and an average CAPEX-to-RAV ratio of 29% over RIIO-1 (double that of SPTL's average ratio of 14.5%).⁴⁰

Given SHETL's very high capex:RAV ratio (based on its 'best view'), we consider it appropriate to treat the company as a 'special case' in RIIO-T1 when determining the appropriate financial package. Hence, in addition to a cost of equity of 7.0 per cent and notional gearing of 55 per cent, we think it is appropriate for SHETL to have its cost of debt index in RIIO-T1 weighted by RAV additions (including 'shadow RAV' and expenditure on Strategic Wider Works).⁴¹

³⁹ Oxera analysis of Ofgem (2020), 'Draft Determinations – RIIO-ET2 Licence Model', July.

⁴⁰ This figure is based on the SHE-T 'best view' TOTEX plans. See Ofgem (2012), 'RIIO-T1: Initial Proposals for SP Transmission Ltd and Scottish Hydro Electric Transmission Ltd, supporting document', 7 February, pp. 43–44, Figures 5.1–5.2.

⁴¹ Ofgem (2012), 'RIIO-T1: Initial Proposals for SP Transmission Ltd and Scottish Hydro Electric Transmission Ltd, supporting document', 7 February, pp. 44–45.

However, Ofgem's RIIO-2 Draft Determinations plan for the SHE-T closing RAV to grow less than 6% in real terms over the entire RIIO-2 period (about 1.5% annualised). The average CAPEX-to-RAV ratio for SHE-T is 7.33%, only marginally higher than SPTL's average ratio of 6.36%.⁴² Given that RIIO-2 is materially less capital-intensive relative to RIIO-1, it is therefore reasonable and appropriate for SHE-T to adopt higher gearing in RIIO-2 and for this to be reflected in a notional gearing assumption of 60%.

Table 4.3 shows the impact on credit ratios of varying the notional gearing assumption while maintaining the other assumptions used by Ofgem in defining the SHE-T notional company. The table shows that by reducing the notional gearing assumption from 60% to 55%, the AICR of the SHE-T notional company has increased from 1.34x to 1.52x. This highlights how Ofgem's decision to change the notional gearing assumption between the SSMD and the Draft Determinations gives the appearance of enhanced credit ratios without changing underlying cash flows.

Table 4.3 Impact of varying the notional gearing assumption for the SHE-T notional company in RIIO-2

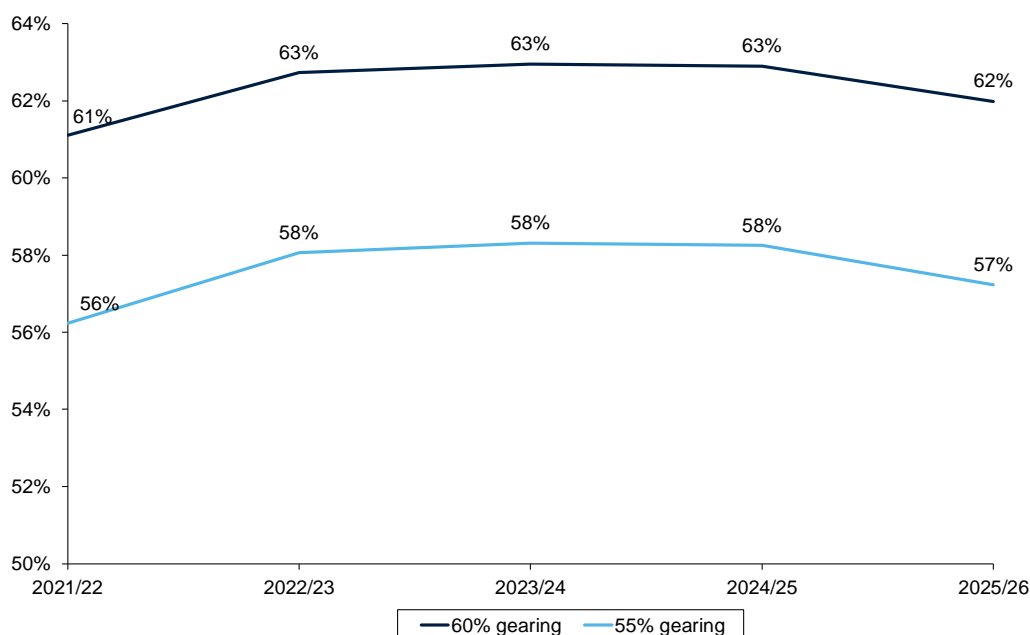
Key credit metrics	Notional gearing 55%*	Notional gearing 60%
Gearing (net debt/RAV) (%)	58%	62%
AICR (x)	1.52	1.34
FFO (interest expense)/net debt (%)	10.7%	9.4%
RCF/net debt (%)	8.3%	7.5%

Note: * This is Ofgem's assumption for the notional company. The above scenarios assume CPIH inflation. All metrics are simple averages over RIIO-2.

Source: Oxera analysis.

The average level of gearing observed in Table 4.3 is higher than notional gearing as Ofgem's modelling allows the gearing for the SHE-T notional company to increase by up to 5% above the notional level before any new equity is issued. The level of dividends paid is fixed at the notional dividend yield assumption. The effect is that the SHE-T notional company has to 'gear up' above the assumed notional level under the 55% and 60% notional gearing assumptions (Figure 4.4). This provides two key insights about Ofgem's overall price control package for RIIO-2: (i) the SHE-T notional company has to take on additional debt in order to maintain its notional dividend yield; and (ii) the actual level of gearing under the 55% notional gearing assumption as per Ofgem's modelling is closer to a notional gearing level of 60%.

⁴² Oxera analysis of Ofgem (2020), 'Draft Determinations – RIIO-ET2 Licence Model', July.

Figure 4.4 Actual gearing under 55% and 60% notional gearing as per Ofgem's model

Note: The simple average actual level of gearing under the 55% notional gearing assumption is about 58.3%.

Source: Oxera analysis of Ofgem (2020), 'Draft Determinations – RIIO-ET2 Licence Model', July.

4.4 Capitalisation rate

As previously noted by the CMA, adjusting the capitalisation rate to move revenue between regulatory periods can be detrimental to the company's long-term financial position and has inter-generational equity implications if it results in current customers paying more than their fair share.⁴³ As a result, the CMA has stated that unjustified adjustments to the capitalisation rate should not be considered good practice.

When considering any adjustments to address the revenue taken in this period compared with that retained for the future, it is important to consider the impact on both the company and its customers...[as] moving revenue between regulatory periods may be NPV neutral but could be detrimental for both the company and customers. Therefore, we do not consider it good practice to increase PAYG without justification.⁴⁴

In the water sector, two of the three rating agencies have publicly stated that they do not see the reprofiling of cash flows through 'PAYG advancement' as being credit-enhancing, and that any adjustment would be excluded from their calculation in making rating decisions. For instance, in response to the PR19 Draft Determinations, Moody's stated:⁴⁵

The regulator views the adjustment of PAYG and run-off rates as economically equivalent to the change in indexation measures, because they involve a trade-off between fast money (received through revenue through the detriment of RCV growth) and slow money (increased RCV growth with lower short-term

⁴³ Competition and Markets Authority (2015), 'Bristol Water plc; A reference under section 12(3)(a) of the Water Industry Act 1991 Report', 6 October, p. 346, para. 11.14.

⁴⁴ Competition and Markets Authority (2015), 'Bristol Water plc; A reference under section 12(3)(a) of the Water Industry Act 1991 Report', 6 October, p. 348, para. 11.22.

⁴⁵ Moody's Investors Service (2019), 'Ofwat tightens the screws further', 26 July, p. 1.

revenue). However, we believe that there is a key difference: the switch to CPIH is a permanent change that applies to all companies in a similar way, while PAYG and run-off rates are partly within companies' control and can change between periods, distorting comparability between companies and over time. We will continue to remove the regulatory depreciation as well as excess PAYG to calculate company-specific AICR ratios.

Ofgem's modelling of the key credit ratios under its illustrative uncertainty mechanism TOTEX scenario indicates an AICR of 1.52x and FFO/net debt of 9.4%.⁴⁶ The ratios deteriorate to 1.48x and 8.9% respectively under its 10% overspend scenario. Counterintuitively, under Ofgem's 20% overspend scenario, both metrics marginally improve to 1.49x and 9.0% respectively. This is only the case for the SHE-T notional company, while other companies (including SPTL and NGET) see a persistent deterioration in these metrics as the level of overspend increases.⁴⁷ This reduces our confidence in Ofgem's modelling and whether its assessment of the key credit ratios supports its conclusions that the SHE-T notional company is financeable.

4.5 RPI-CPIH transition

Ofgem has switched from RPI to CPIH as a measure of inflation in RIIO-2. It has indicated that the switch should, on an ex ante basis, secure NPV-neutrality for the regulated companies. Specifically, a lower depreciation allowance (due to lower RAV indexation under CPIH inflation) is expected to be offset with a higher return allowance (due to a higher cost of capital expressed in CPIH terms).

The CPIH transition has a significant positive cash-flow impact in RIIO-2 resulting from a higher return allowance (due to a higher cost of capital expressed in CPIH, real terms). If RPI had been retained as the measure of inflation, the notional company's financeability metrics would be under significantly more pressure in RIIO-2. For example, the AICR would have been 1.12x with RPI indexation rather than 1.52x under CPIH (Table 4.4). This indicates that the reprofiling of revenues created by the change in approach to RAV indexation is 'masking' an underlying financeability issue at RIIO-2. Ofgem has not undertaken an assessment of the impact of an immediate switch to CPIH indexation on short-term and long-term financeability. Consequently, these impacts are not well understood. Moreover, Ofgem has not applied a transition period for the switch from RPI to CPIH, unlike Ofwat where both measures of inflation are used for indexation in AMP7.

Table 4.4 Impact of varying the inflation measure for the SHE-T notional company in RIIO-2

Key credit metrics	CPIH inflation*	RPI inflation
Gearing (net debt/RAV) (%)	58%	59%
AICR (x)	1.52	1.12
FFO (interest expense)/net debt (%)	10.7%	9.0%
RCF/net debt (%)	8.3%	6.7%

Note: * This is Ofgem's assumption for the notional company. The long-term assumption for CPIH and RPI inflation is 2.0% and 3.0% respectively. All metrics are simple averages over RIIO-2.

Source: Oxera analysis.

⁴⁶ Ofgem (2020), 'RIIO-2 Draft Determinations—Finance Annex', 9 July, p. 110, Table 36.

⁴⁷ Ofgem (2020), 'RIIO-2 Draft Determinations—Finance Annex', 9 July, p. 110, Table 36.

The full transition to CPIH indexation also exposes companies to the risk that the outturn RPI–CPIH wedge differs from the fixed wedge assumed by Ofgem when setting the allowed return on capital.

4.6 Dividend yield

A mature regulated firm should be able to support a stable dividend pay-out policy. Ofgem has used a base dividend yield of 3% for assessing notional company financeability. Oxera previously showed that for the actual company to be financeable (in the narrow sense of meeting its credit metrics), dividends would have to be zero. In this section we have shown that the Draft Determinations financial model does not support a 3% dividend yield because it requires gearing to increase above the notional assumption in RIIO-2 in order to pay this level of dividend.

In its Draft Determinations, Ofgem has outlined its view that:

it is for shareholders to address any actual financeability constraints due to their financing structure or costs differing from the notional company. We consider that it is appropriate that shareholders consider dividend restraint and/or equity issuance in times of cashflow weakness.⁴⁸

This statement misses the point that a dividend yield of 3% is not sustainable under the **notional** capital structure assumed by Ofgem. This is notwithstanding that the assumptions for the notional capital structure have been altered to deliver a certain level of credit metrics without making any changes to the revenue allowances, and therefore without making any changes to the underlying financeability of the RIIO-2 Draft Determinations.

The Ofgem statement implies that a low dividend yield may be justified at a time of cash-flow weakness. However, as this section has shown, the capital programme in RIIO-2 would create less cash-flow pressure than the RIIO-1 capital programme. Moreover, by implementing an immediate switch to CPIH indexation, Ofgem has brought forward cash flows from future price controls and eased cash-flow pressure in RIIO-2. This suggests that any cash-flow weakness in RIIO-2 is not a temporary phenomenon that can be managed through reprofiling of dividends, but rather that it indicates a fundamental deficit in the allowed return on capital.

Even if a dividend yield of 3% could be achieved under the notional assumptions, a number of companies have made representations to Ofgem that the notional dividend yield of 3% is well below the average over the past decade for utility companies.⁴⁹ For comparison, the notional dividend yield was 5% in RIIO-1:

Both SPTL and SHETL included a dividend yield assumption of five per cent. We considered that given the high level of RAV growth it was appropriate to reduce this assumption, although we noted arguments for the need to maintain dividend levels in order to attract new equity. Overall, the impact of this assumption is not significant on the level of allowed revenues.⁵⁰

The dividend policies of the listed water companies indicate that both Severn Trent and United Utilities intend to pay dividend yields on regulated equity of

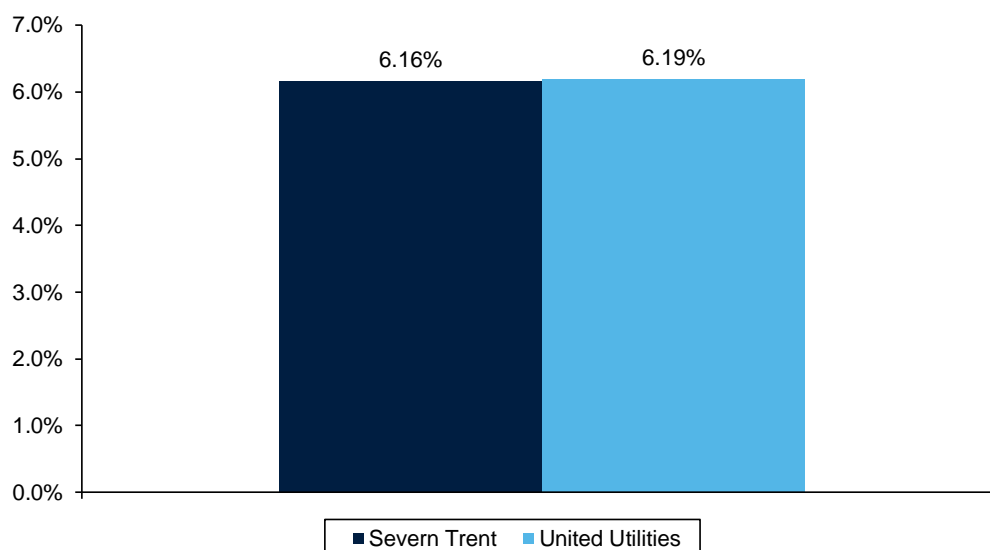
⁴⁸ Ofgem (2020), 'RIIO-2 Draft Determinations—Finance Annex', 9 July, p. 187.

⁴⁹ Ofgem (2020), 'RIIO-2 Draft Determinations—Finance Annex', 9 July, p. 208.

⁵⁰ Ofgem (2012), 'RIIO-T1: Initial Proposals for SP Transmission Ltd and Scottish Hydro Electric Transmission Ltd', p. 45, para. 5.27.

over 6% over AMP7. This is approximately in line with Ofwat's nominal allowed return for PR19 of 6.19%.⁵¹

Figure 4.5 Average dividend yield of listed water companies over AMP7



Note: The average dividend yields on regulated equity are calculated as per the announced dividend policies, based on the AMP7 allowed RCVs and notional gearing assumption of 60%.

Source: Oxera analysis of company dividend policies for AMP7.

It is therefore not implausible for investors in transmission companies to expect a notional dividend yield of 5% in line with RIIO-1 and closer to the nominal allowed equity return for RIIO-2.

Table 4.5 Impact of varying the dividend yield assumption for the SHE-T notional company in RIIO-2

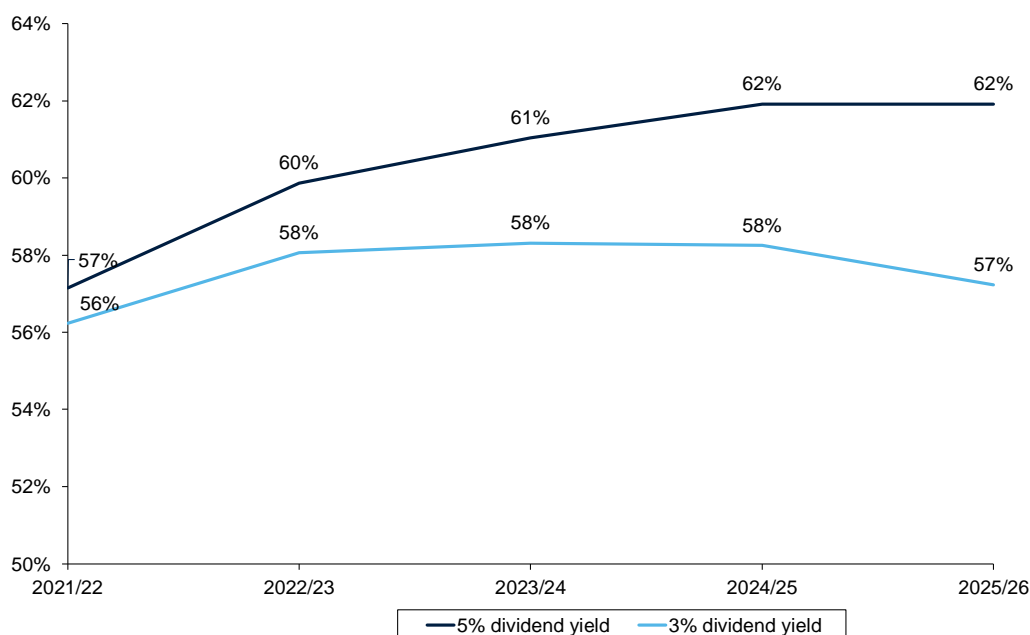
Key credit metrics	Dividend yield 3%*	Dividend yield 5%
Gearing (net debt/RAV) (%)	58%	60%
AICR (x)	1.52	1.46
FFO (interest expense)/net debt (%)	10.7%	10.1%
RCF/net debt (%)	8.3%	6.3%

Note: * This is Ofgem's assumption for the notional company. The above scenarios assume CPIH inflation. All metrics are simple averages over RIIO-2.

Source: Oxera analysis.

As discussed in section 4.3, the effect of Ofgem's modelling is that the SHE-T notional company has to 'gear up' above the assumed notional gearing level to maintain its notional dividend yield. The average actual level of gearing at a 5% dividend yield is 60%, in line with the observed actual level of gearing over RIIO-1 (Figure 4.3), with gearing trending up over RIIO-2 and reaching 62% by the end of the period.

⁵¹ Ofwat (2019), 'PR final determinations: allowed return on capital technical appendix', December, p. 18.

Figure 4.6 Actual gearing under a 3% and 5% dividend yield as per Ofgem's model

Note: The simple average actual level of gearing under a 5% dividend yield is about 60.4%. The 'deadband' of 5% has been removed to allow the company to gear up above Ofgem's 60% minimum equity issuance gearing level.

Source: Oxera analysis of Ofgem (2020), 'Draft Determinations – RIIO-ET2 Licence Model', July.

4.7 Summary

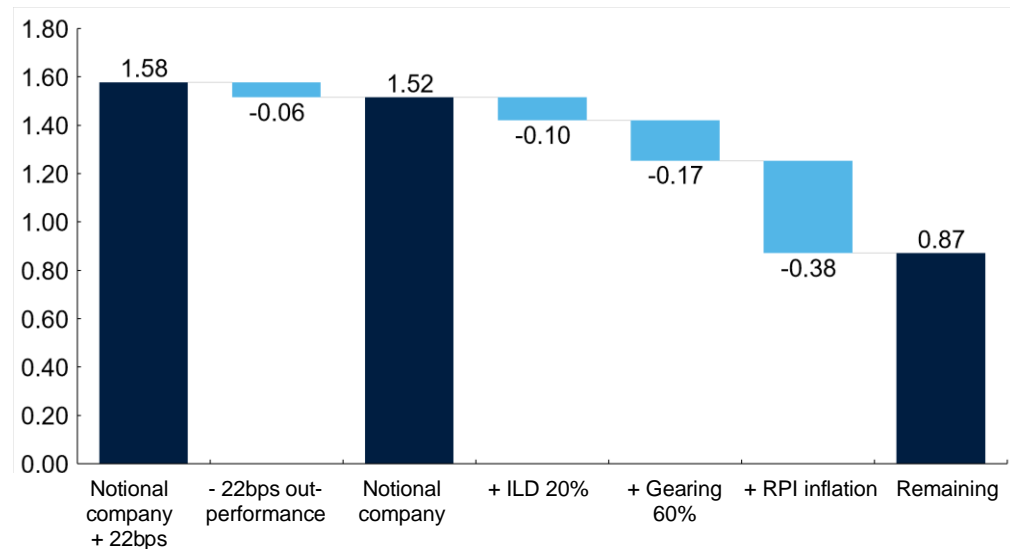
Our review of Ofgem's working assumptions of the SHE-T notional company has found several issues. The index-linked debt assumption is driven by outliers such as NGGT and NGET, whilst both SHE-T and SPTL do not have any index-linked debt. We have also shown that Ofgem's modelling requires the SHE-T notional company to 'gear up' to maintain the notional dividend yield of 3%. This means that in the PCFM the company is actually geared closer to 60%, in line with the observed gearing over RIIO-1 and Ofgem's SSMD assumption. Without this assumption, the SHE-T notional company would not be able to pay the dividend yield of 3%. The dividend policies of the listed water companies also indicate that it is not implausible for investors in transmission companies to expect a notional dividend yield closer to the nominal allowed return.

Figure 4.7 to Figure 4.9 show the cumulative impacts on key credit metrics under different SHE-T notional company definitions. The first change is the alignment of the assumption for CPI-linked debt with the average for the sector excluding the outlier of NGGT, notwithstanding that this results in assuming 20% index-linked linked debt when both SHE-T and SPTL have zero index-linked debt. The notional level of gearing is then restored to 60%, and finally for comparison with RIIO-1, RPI is assumed for RAV indexation and the real cost of capital for RIIO-2.

Under these definitions of the SHE-T notional company, the AICR and FFO/net debt would fall below 1x and 8.0% respectively. RCF/net debt would be only 6.0%. These ratios are well below the minimum thresholds used by credit rating agencies for Baa1/BBB+ ratings. This highlights that the inappropriate changes that Ofgem has made to the definition of the notional company have

significantly enhanced credit ratios relative to the working assumptions used in the SSMD (and hence the SHE-T business plan assurance). It is therefore critical that there is robust underlying evidence to support these changes, which Ofgem has failed to provide thus far.

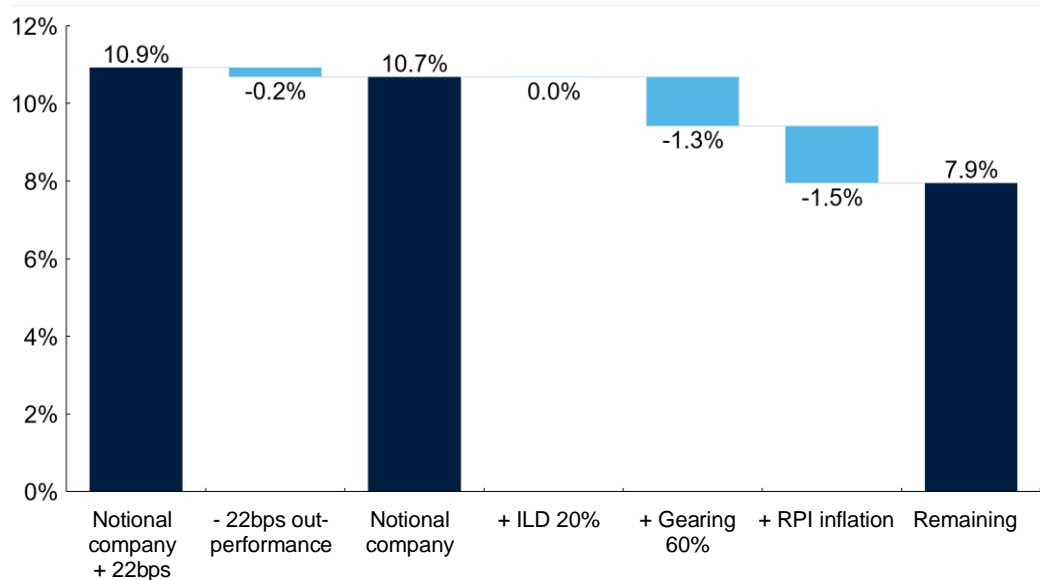
Figure 4.7 AICR with cumulative changes in the notional company



Note: All figures are simple averages over RIIO-2.

Source: Oxera analysis.

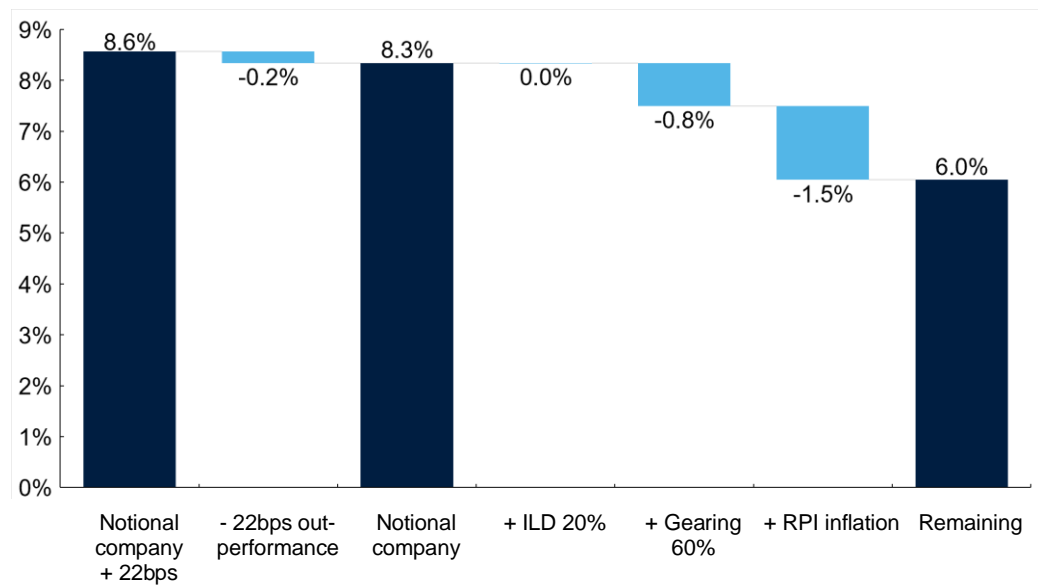
Figure 4.8 FFO (interest expense)/net debt with cumulative changes in the notional company



Note: All figures are simple averages over RIIO-2.

Source: Oxera analysis.

Figure 4.9 RCF/net debt with cumulative changes in the notional company



Note: All figures are simple averages over RIIO-2.

Source: Oxera analysis.

5 Ofgem focuses on debt financeability and its assessment of equity financeability is limited

Ofgem has largely focused its assessment of financeability on the degree to which notional company credit ratios are in line with what it considers to be reasonable levels given rating agency guidance. It has, however, noted the concerns of companies in terms of equity financeability.

Networks have identified concerns with respect to equity financeability as distinct from debt financeability, and some company submissions claim that the former is more of a problem than the latter. In the SSMD we stated we were conscious that financeability refers to the licence holder being able to finance activities that are the subject of obligations imposed under relevant legislation and hence is applicable to both equity and debt. In assessing equity financeability, we continue to look primarily to ensure that our cost of equity and allowed equity return assessment is robust and hence sufficient for the equity financeability of the notional company.⁵²

We consider that Ofgem is correct to highlight the need to consider equity financeability in assessing whether the financing duty has been met. However, it has only conducted limited and inadequate analysis of whether the allowed return is sufficient to incentivise the investment required in RIIO-2. We note that Ofgem's three mitigating actions to alleviate notional company financeability constraints (reducing the dividend assumption; adjusting the capitalisation rate and/or depreciation rates; and adjusting the notional gearing)⁵³ are focused on debt financeability and none of these actions address an underlying deficit in the allowed return. Investors are ultimately concerned about the allowed returns on their investments.

In this section, we consider financeability from the perspective of equity investors. In doing so, we consider the inadequacy of the allowed return on equity, the implied equity issuance for the notional company, and the size of the equity buffer for RIIO-2.

5.1 The allowance for the cost of equity is too low

Ofgem estimates an average cost of equity of 3.93–4.20% (CPIH, real) for energy companies in RIIO-2. Inclusive of Ofgem's 22bp 'outperformance' adjustment, the allowed return on equity is only 3.70% for electricity transmission and 3.95% for gas distribution and transmission.⁵⁴ This is less than half of the allowed return in RIIO-1 and "the lowest [WACC] ever proposed for network companies".⁵⁵

In our report for the ENA, we conclude that Ofgem has systematically underestimated the cost of equity for UK energy companies. We find a cost of equity range of 5.27–6.23% (CPIH, real) at 55% notional gearing.⁵⁶ Our 'asset risk premium–debt risk premium' analysis supports our proposed cost of equity range.⁵⁷ Figure 5.1 illustrates the gap between our conclusions on the cost of equity for RIIO-2 and the Ofgem Draft Determination allowed return on equity at 55% gearing.

⁵² Ofgem (2020), 'RIIO-2 Draft Determinations—Finance Annex', 9 July, p. 95, para. 5.8.

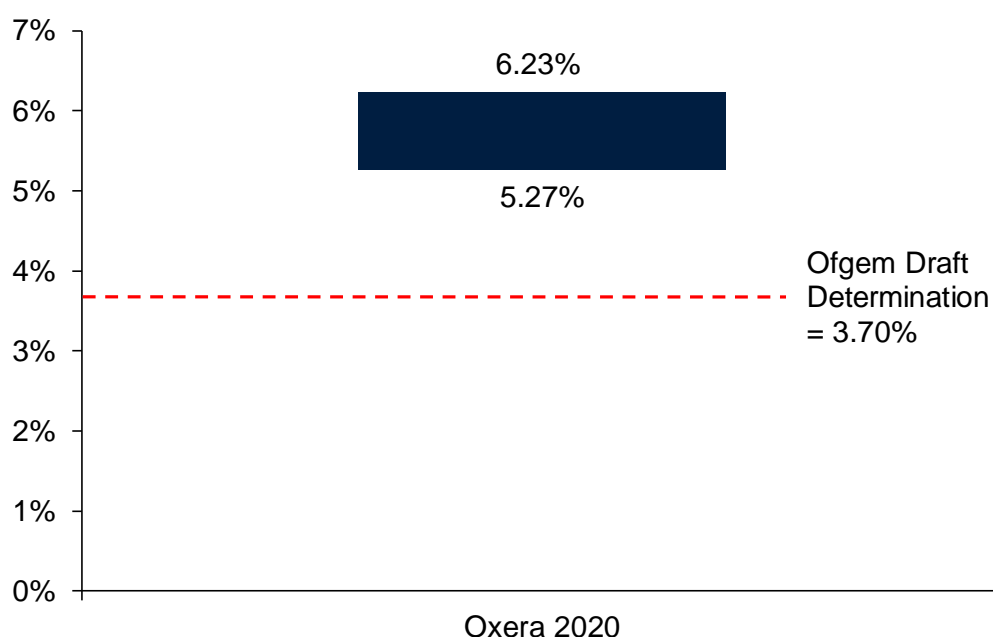
⁵³ Ofgem (2020), 'RIIO-2 Draft Determinations – Finance Annex', 9 July, p. 100, para. 5.24.

⁵⁴ Ofgem (2020), 'RIIO-2 Draft Determinations—Finance Annex', 9 July, p. 92, Table 31.

⁵⁵ Ofgem (2020), 'RIIO-2 Draft Determinations—Core Document', 9 July, p. 11.

⁵⁶ Oxera (2020), 'The cost of equity for RIIO-2, Q3 2020 update', September.

⁵⁷ Oxera (2020), 'Asset risk premium relative to debt risk premium', September.

Figure 5.1 The allowed cost of equity for RIIO-2

Note: All number in CPIH-real terms.

Source: Oxera analysis.

Ofgem's Draft Determinations draw a connection between reducing the regulatory cost of capital and increased consumer welfare.⁵⁸ Although the reduction in the level of consumer bills is readily quantifiable, it is not the only or even necessarily the most important consideration for consumer welfare. As noted in the UKRN cost of capital study⁵⁹ and in Oxera analyses,⁶⁰ it is the role of a regulator to balance the risk of overcharging consumers by setting a cost of capital that is too high, with the risk of the company not being able to finance capital investment when the cost of capital is too low.

As a result, the regulator's objective is to set a cost of capital that balances the potential loss in consumer welfare from underinvestment against the loss of setting prices that are too high. The regulator has to take this decision in the context of uncertainty about the actual return required by investors.

In the UKRN cost of capital study, the authors concluded on this topic that:

the optimal choice of the RAR [regulatory allowed return] [...] is high, in terms of the percentile within the range of distribution of the true WACC.⁶¹

In reaching this conclusion, the authors assumed that 'the consequence of setting too low a RAR [regulatory allowed return] is a complete loss of investment',⁶² which is, arguably, an extreme assumption. In our April 2020 report for Heathrow Airport on the subject, we relaxed this assumption to only 10% loss of investment and found that for realistic values of the price elasticity,

⁵⁸ Ofgem (2020), 'RIIO-2 Draft Determinations – Finance Annex', 9 July, p. 9, para. 1.10.

⁵⁹ UKRN (2018), 'Estimating the cost of capital for implementation of price controls by UK regulators', 6 March.

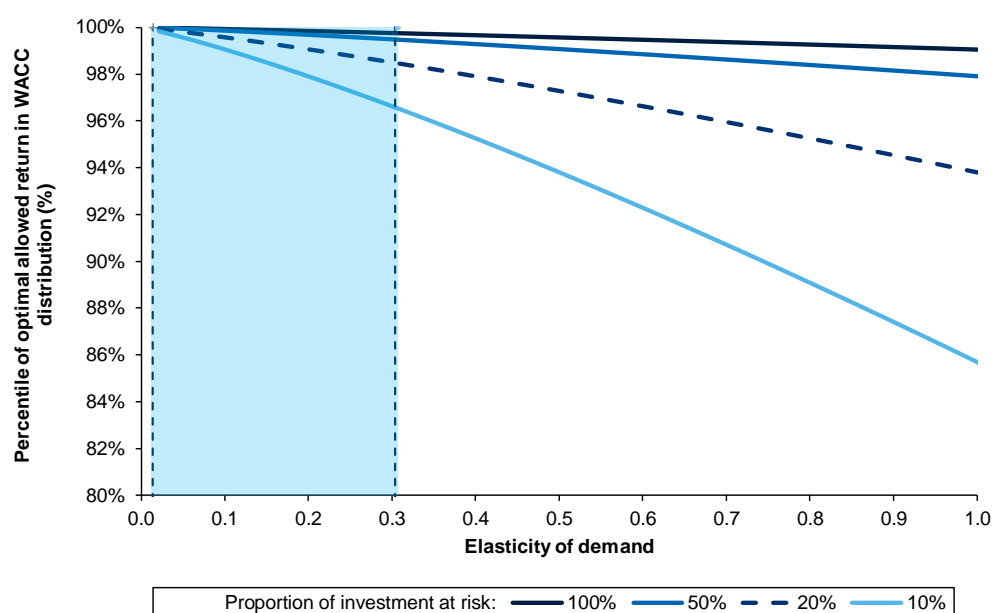
⁶⁰ Oxera (2014), 'Input Methodologies—Review of the '75th percentile' approach', 23 June; and Oxera (2020), 'Is aiming up on the WACC beneficial to customers?' 17 April.

⁶¹ UKRN (2018), 'Estimating the cost of capital for implementation of price controls by UK regulators', 6 March, p. 163.

⁶² UKRN (2018), 'Estimating the cost of capital for implementation of price controls by UK regulators', 6 March, p. 164.

customer welfare is maximised by setting the allowed return at or above the 96th percentile of the WACC distribution.⁶³

Figure 5.2 Optimal allowed cost of capital



Note: We assume that realistic elasticities of demand for energy in the UK are between 0.0 and 0.3 in the short run. This is in line with the recent CMA energy market investigation which says that there is no change in demand in the 'very short run' in response to wholesale price changes (i.e. elasticity of demand is 0), and cites a study that finds an elasticity of 0.35 in the short run. See Competition and Markets Authority (2016), 'Energy market investigation', 24 June, pp. 345–346, paras 8.8–8.9.

Source: Oxera analysis in Oxera (2020), 'Is aiming up on the WACC beneficial to customers?' 17 April.

The Competition Commission in its 2007 review of airports in the UK acknowledged the principle of 'aiming up' on the cost of capital:

If the WACC is set too high then the airports' shareholders will be over-rewarded and customers will pay more than they should. However, we consider it a necessary cost to airport users of ensuring that there are sufficient incentives for BAA to invest, because if the WACC is set too low, there may be underinvestment from BAA or potentially costly financial distress... Most importantly, we note that it is difficult for a regulator to reduce the risks of underinvestment within a regulatory period.⁶⁴

In the context of the NERL (2020) redetermination, the CMA did not aim up for NERL but accepted that there might be a case for a long-term premium on the cost of capital (i.e. an aiming up adjustment) to promote investment in other infrastructure sectors.

We considered the argument made by ENA and Anglian Water for 'aiming up' to promote investment. We accept that there might be an argument that, in the long run, customers' interests were served by a small premium to the cost of capital, particularly if that helped avoid an 'opex bias', where companies had the incentive in their business plans to run down the existing capital assets for as long as possible. If there were positive externalities and longer-term benefits to

⁶³ Oxera (2020), 'Is aiming up on the WACC beneficial to customers?' 17 April, p. 2, Figure 2.1.

⁶⁴ Competition Commission (2007), 'BAA Ltd: A report on the economic regulation of the London airports companies (Heathrow Airport Ltd and Gatwick Airport Ltd)', Appendix F: Cost of capital, p. F36, para. 150.

consumers from identifying and investing in new capital projects, then we agreed that there could be a case for a long-term premium on the cost of capital. At the same time, given that the premium would apply to assets already in place as well as promoting new investments, it might only need to be small to be effective.⁶⁵

The principle of adopting a point estimate towards the top of the estimated range for the cost of capital is thus well established in both consumer welfare theory and regulatory precedent. Ofgem has instead selected a cost of equity allowance at the mid-point of its estimated range (step 2 of the Ofgem methodology for the allowed equity return).

5.2 Equity analysts have expressed concerns with Ofgem's allowed return

An important factor in ensuring the financeability of regulated networks from an equity perspective is investor confidence. Investors—not regulated networks—make the decision to commit capital that allows networks to issue new equity. The potential pool of investments is global and there is an opportunity to earn regulated returns outside the UK energy sector. The analyst reports suggests that Ofgem has not fully appreciated the relative difference in its allowed return and the returns achievable in other regulatory regimes. Regulated networks may face difficulty in raising the funds they require to finance the investments allowed in Ofgem's Draft Determinations, and to achieve the assumptions that Ofgem has made for the notional capital structure and dividend policy.

Reports by equity analysts since Ofgem's Draft Determinations point to higher baseline returns in the UK water sector (4.19% CPIH, real vs Ofgem's allowed return of 3.71% CPIH, real)⁶⁶ and those offered in Italy, Spain and the USA.⁶⁷ When factored in with expected outperformance or normalised for gearing, the UK energy sector returns offer the lowest returns from a range of EU comparators and the USA.

Regulated networks themselves are incentivised to seek higher returns on their investments outside the UK. In particular, the USA and Spain are natural places for capital to be attracted to as both National Grid and Scottish Power (parent Iberdrola) already have sizeable operations and experience within these regulatory regimes. Bernstein (2020) points to discussions with investors that suggest investments outside the UK are preferred at current levels of returns.⁶⁸ It is therefore not inconceivable that—should Ofgem continue to make its Final Determinations in line with its Draft Determination proposals—the UK energy sector will face challenges in retaining and attracting equity under Ofgem's allowed return for RIIO-2.

5.3 Investors are required to issue equity under the notional company base case

Ofgem assumes that the SHE-T notional company issues equity when the actual gearing level at the beginning of each year exceeds the notional gearing level. A 'deadband' is allowed so that the actual level of gearing may rise up to 5% above the notional level (i.e. from 55% to 60%). It is not clear why Ofgem

⁶⁵ Competition and Markets Authority (2020), 'NATS (En Route) Plc / CAA Regulatory Appeal: Final report', 23 July, p. 246, paras 13.295–13.296.

⁶⁶ Ofwat (2019), 'PR final determinations: allowed return on capital technical appendix', December, p. 18.

⁶⁷ See for example Bernstein (2020), 'An Open letter to the CEO of Ofgem: With great power comes great responsibility', 3 August, p. 6.

⁶⁸ Bernstein (2020), 'An Open letter to the CEO of Ofgem: With great power comes great responsibility', 3 August, p. 6.

assumes this threshold and it seems inconsistent to allow gearing up to 60% when the notional gearing assumption is 55%. Without the 5% deadband, the notional company must issue £136m (nominal) of equity over RIIO-2 to maintain gearing at 55%. This results in equity issuance costs of £6.8m, rather than the £0.0m reflected in Ofgem's Draft Determinations.⁶⁹

Moreover, the required equity issuance of £136m (nominal) offsets the actual level of dividends paid by the SHE-T notional company (i.e. dividend yield 3%) such that the implied dividend yield over RIIO-2 is lower than 3%. Ofgem's modelled outputs do not capture this as it allows the gearing level to rise to 60% before any equity issuance. Relatedly, we observe that the dividend cover ratio is less than one for the SHE-T notional company (see Table A1.1 in Appendix A1).

Ofgem implicitly assumes that forgoing dividends is costless (unlike raising additional equity, for which it allows 5% equity issuance costs). Previous Oxera analysis submitted to Ofgem has shown that reducing or forgoing dividends is likely to entail significant costs to equity holders.⁷⁰ From an equity financeability perspective, Ofgem should consider whether it is appropriate to conclude that the SHE-T notional company could raise additional equity or forgo dividends without incurring any costs.

5.4 Ofgem's outperformance adjustment on the allowed equity return is inappropriate, incorrectly calibrated, and undermines efficiency incentives

Ofgem has assumed that companies are able to outperform its calculated cost of equity 3.93% by 22bp in RIIO-2, and has therefore allowed a base equity return of only 3.70% (CPIH, real).

Regulators have an array of tools at their disposal to determine evidenced and balanced price control parameters; it is inappropriate for regulators to decide before a price review even begins that they will inevitably fail to set expenditure allowances and output targets at an appropriate level.

Ofgem seeks to support the 22bp adjustment through analysis of historical cost performance relative to regulatory allowances across the GB energy, UK airports, UK air traffic control, and England and Wales water sectors over multiple price controls. However, historical outperformance in other sectors (particularly airports and air traffic control, which have different approaches to cost assessment, cost recovery and incentivisation) is of limited relevance to the assessment of expected returns for energy networks in RIIO-2. It is also not obvious that inferences about future performance can be drawn from price controls in the 1990s and early 2000s. Over time, the degree of regulatory scrutiny has increased and new incentive mechanisms have been introduced to address information asymmetry.

Besides the underlying sectors and time periods covered by the data, Ofgem has not robustly calculated the level of historical performance. Ofgem's 'AR-ER' database indicates that SHE-T has outperformed the RIIO-1 TOTEX allowance by around 16%.⁷¹ However, this number is a significantly inflated estimate of actual RIIO-1 outperformance since Ofgem's analysis does not take account of true-ups that will be applied at the end of the period and the

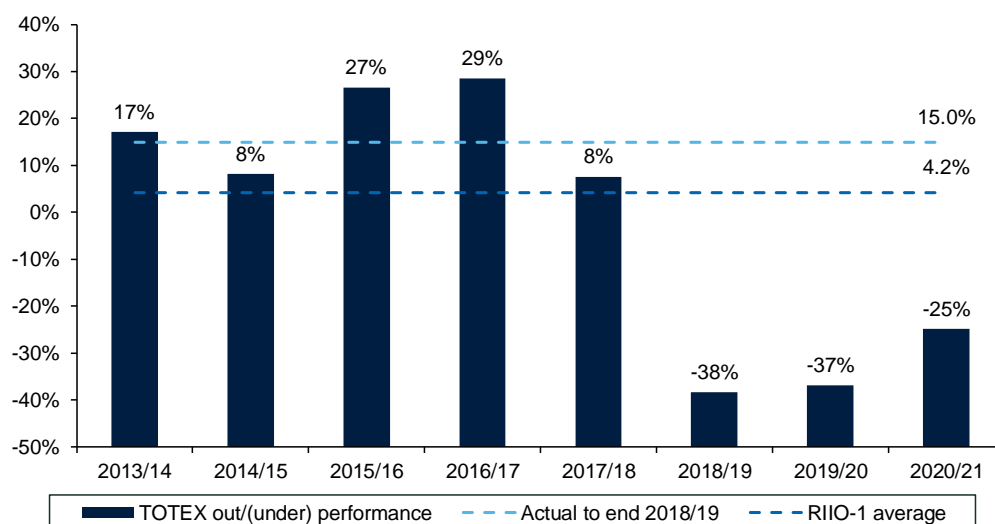
⁶⁹ Ofgem (2020), 'RIIO-2 Draft Determinations—Finance Annex', 9 July, p. 109, Table 33.

⁷⁰ Oxera (2019), 'Review of NGN's financial analysis for RIIO-GD2', prepared for Northern Gas Networks, 26 March.

⁷¹ Ofgem (2020), 'AR ER database.xlsx', technical annex, 9 July.

projected performance to the end of RIIO-1. This is important as SHE-T is forecast to overspend significantly in the last two years of the control, which will mean that by the end of the period the total RIIO-1 outperformance will be much smaller (see Figure 5.3). After accounting for these estimation issues, Ofgem data forecasts SHE-T's total RIIO-1 underspend to be 4.2%.⁷²

Figure 5.3 TOTEX out/(under) performance in RIIO-1



Note: The final two years of RIIO-1 are forecast rather than outturn data.

Source: Oxera analysis based on RFPR 2018/19 data.

Moreover, Ofgem's 22bp adjustment does not consider that the scope for outperformance at RIIO-2 is smaller than in previous periods. Ofgem assumes that the level of past outperformance is not a good indicator of future outperformance. However, this overlooks the considerable modifications proposed for the RIIO-2 regulatory framework, including:

- setting more stringent efficiency targets;
- reducing the proportion of TOTEX outperformance that is retained by the company;
- linking a greater proportion of expenditure to price control deliverables (PCDs), cost indices and uncertainty mechanisms;
- applying a revised business plan penalty based on Ofgem's assessment of cost confidence;
- removing the link (which previously existed under the Information Quality Incentive, IQI) between regulatory allowances and the company's business plan forecasts;
- introducing an ex post return adjustment mechanism.

In addition to the above, the outperformance adjustment attempts to ensure that the allowed returns are not overstated to avoid the associated loss of consumer welfare (as discussed in section 5.1). However, this is a static analysis that does not take into account the dynamic impact on incentives. Our analysis indicates that the short-term savings on consumer bills in RIIO-2

⁷² Ofgem (2020), 'Regulatory financial performance data file – Annex to RIIO-1 Network Performance Summaries – 2018/19', 7 February, 'Totex' tab, cell E30.

would be eliminated over a single five-year price control period if the adverse impact on incentives resulted in TOTEX being just 4% higher.

More so than in previous price controls, Ofgem has failed to design a balanced price control by placing too much emphasis on the benefit of short-term bill reductions and overlooking the likely welfare losses faced by consumers and society through delays to investment and the longer term consequences that this will have for outcomes and bills—particularly when important environmental challenges such as Net Zero demonstrate the critical need for timely investment.

6 TOTEX allowances are insufficient and the package of incentives is negatively skewed

In conducting its assessment of notional company financeability, Ofgem has conducted limited and insufficient analysis of the distribution of risk under its proposed settlement. Ofgem's central financeability test considers the profile of cash flows and returns under the assumption that the notionally efficient company is able to deliver the price control outputs and performance obligations for the base TOTEX allowance.

The likelihood that the company is financeable is therefore closely tied to the extent to which the regulatory allowances and performance targets are achievable. If the regulator's assumed levels of cost and performance are unachievable then the cash flows and credit ratios of the constructed notional company will not provide a meaningful indication of actual financeability (i.e. it will understate the financeability constraint for an efficient firm). The CMA recognised this in the Bristol Water (2015) inquiry.

Credit ratio analysis forms part of the assessment of financeability, but needs to be considered alongside the rest of the determination. In that context, we have had regard to our analysis on wholesale totex.⁷³

Ofgem has also conducted limited analysis of the distribution of risk under its proposed settlement. The package of incentives and risk-sharing mechanisms has changed significantly since RIIO-1 as a result of the recalibration of financial incentives, greater use of indexation and introduction of additional ex post adjustment mechanisms.

The incremental impact of the proposed regulatory changes is to limit the ability to earn high returns by more than they protect against the risk of earning low returns. As a result, the overall balance of risk and reward in the package is subject to a negative skew.

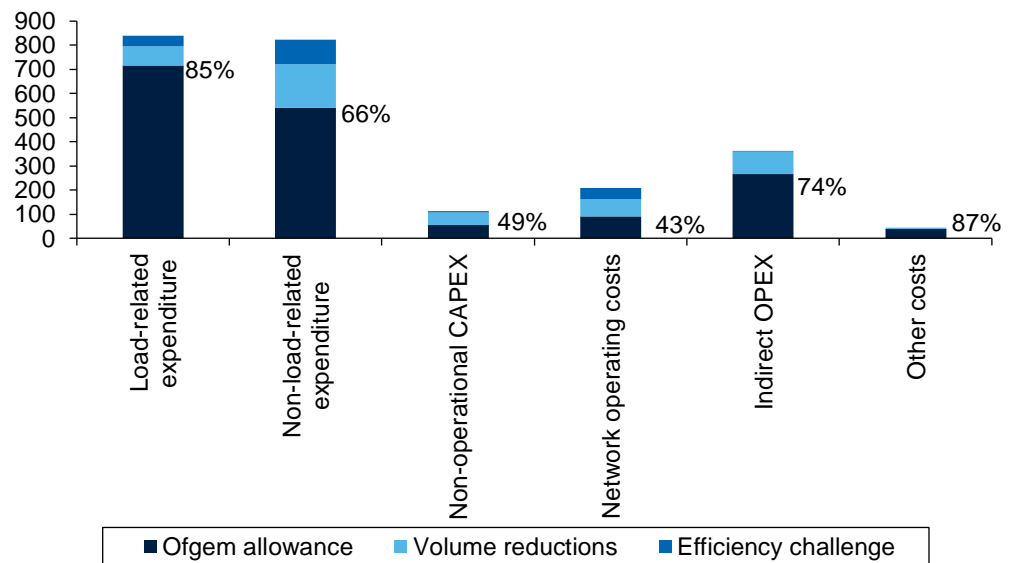
We consider the insufficient TOTEX allowances and each of the price control mechanisms in turn below.

6.1 TOTEX allowances are insufficient

The RIIO-2 Draft Determinations disallow a significant proportion of the forecast expenditure in the electricity transmission networks' business plans. This partly reflects cost reductions that are linked to a reduction in the assumed level of activity/volumes delivered by the networks. However, some of the cost reductions result from Ofgem assuming that the networks are able to deliver greater levels of efficiency than built into their plans.

For the SHE-T notional company, Ofgem has reduced the TOTEX baseline by around 12.5% due to cost reductions and Ofgem's 'on-going efficiency challenge' of £98m over RIIO-2 (see Figure 6.1). It has also made a further 20% reduction on the basis of changes to lower volumes/activity. The extent to which this is achievable is fundamental to understanding whether the price control is financeable.

⁷³ Competition and Markets Authority (2015), 'Bristol Water plc: A reference under section 12(3)(a) of the Water Industry Act 1991', p. 348, para. 11.23.

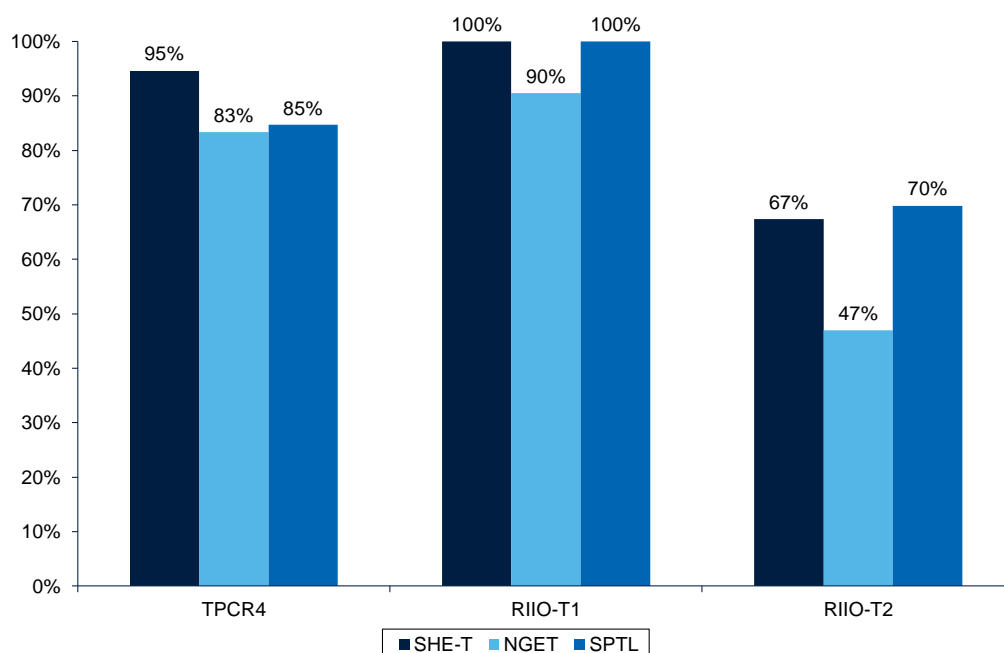
Figure 6.1 Efficiency challenge in Ofgem's Draft Determinations

Note: The chart does not show Ofgem's 'on-going efficiency challenge' of £98m over RIIO-2.

Source: Oxera analysis of Ofgem (2020), 'RIIO-2 Draft Determinations – Scottish Hydro Electric Transmission', 9 July, p. 23, Table 13.

In this context, we note that the degree of regulatory challenge is higher than in previous price controls. For transmission, Ofgem's allowance equates to a reduction of approximately 45% relative to company business plans, with around £2.1bn of the reduction stemming from additional cost efficiency.⁷⁴ As shown in Figure 6.2, the scale of disallowed costs is much greater under the RIIO-2 Draft Determinations than in previous transmission price controls. For the SHE-T notional company, this difference is considerable given that it received fast-tracked status in RIIO-1 and therefore had its business plan accepted by the regulator.

⁷⁴ Ofgem (2020), 'RIIO-2 Draft Determinations – Core Document,' 9 July, p. 42, para. 5.12.

Figure 6.2 Ofgem's TOTEX allowances compared with company proposals (%)

Note: The average reduction in allowances of 45% in RIIO-2 is a weighted average calculation.

Source: Oxera analysis of Ofgem (2006), 'Transmission Price Control Review: Final Proposals', December, pp. 9–10; Ofgem (2012), 'RIIO-T1: Final Proposals for SP Transmission Ltd and Scottish Hydro Electric Transmission Ltd', 23 April, p. 23, Table 6; and Ofgem (2020), 'RIIO-2 Draft Determinations – Scottish Hydro Electric Transmission', 9 July, p. 23, Table 13.

In particular, Ofgem has made the following changes.

- Base TOTEX is now less influenced by company views than under the previous IQI. The IQI framework meant that companies' cost allowances were not exclusively based on Ofgem's cost assessment, since the cost allowance was adjusted by 25% of the difference between the company's bid and the baseline. For example, if the company's IQI ratio was 110, its allowed expenditure would be equal to 102.5% of Ofgem's forecast (i.e. $100 + (10 \times 0.25)$).
- Ofgem has increased the frontier shift assumptions relative to RIIO-1 (from 0.7 to 1.2% on CAPEX and from 0.9% to 1.4% on OPEX).⁷⁵
- Ofgem's assumption around expected outperformance in estimating the cost of equity means that companies would need to outperform TOTEX allowances by at least 2–4% to earn the base equity return (albeit Ofgem is now proposing an ex post adjustment to address this). As discussed in section 5.4, it is not clear that Ofgem has accurately calculated historical outperformance or that it is reasonable to assume that this could be repeated in RIIO-2, particularly given the changes to the regulatory framework.
- SHE-T received the maximum business plan penalty of 2% of TOTEX. This is not factored in to the financeability assessment on the basis that there would be no such penalty for the notionally efficient company. This assumes that the regulator is perfectly able to identify the notionally efficient company

⁷⁵ Oxera (2020), 'Critique of RIIO-2 ongoing efficiency analysis', September, p. 1.

and there is therefore no risk of regulatory error. The downside skew created by the business plan incentive is illustrated by all but two companies having received a penalty, half of which received a penalty of £15m or greater. It is important also to consider the extent to which this affects financeability as business plan penalties are unlikely to be in the public interest if they create a financing issue. Moreover, as set out in Oxera's TOTEX assessment report prepared for SHE-T, Ofgem's cost assessment methodology is skewed towards underestimating company TOTEX.⁷⁶ As such, it is likely that a proportion of SHE-T's business plan penalty is attributable to regulatory error, rather than inefficiency.

- The combination of the outperformance adjustment and the BPI means that even if Ofgem's base TOTEX allowance accurately reflects the P50 of the cost distribution, SHE-T would need to outperform by the TOTEX allowance by 21% to generate the base return.⁷⁷

A full analysis of the TOTEX proposals is provided in Oxera's TOTEX assessment report prepared for SHE-T.⁷⁸ This report shows that Ofgem's process, modelling principles and methods for determining allowed TOTEX understate SHE-T's allowance through a combination of:

- a cost assessment framework that makes little allowance for the potential for error; and
- benchmarking models that overlook important normalisation factors or cost drivers due to limited data and are therefore subject to significant modelling noise.

In particular, Ofgem's cost assessment framework is not balanced as it *removes* the impact of potential positive modelling errors on companies' TOTEX allowance by capping funding at the business-plan level, but *retains* the impact of negative modelling errors by applying the most stringent benchmark available.

For these reasons, we consider that there is considerable risk that Ofgem has made insufficient allowances for efficient expenditure in RIIO-2.

6.2 TOTEX incentive mechanism

The RIIO-2 TOTEX incentive mechanism is symmetric, with SHE-T bearing 30% of under/over-spend and the remainder falling to users. This has reduced from 50% in RIIO-1, which would be expected to have the effect of narrowing the distribution of returns. Given that the rate is symmetrical (unlike, for example, the sharing factor for water companies at PR19), the TOTEX incentive mechanism should not, of itself, skew the distribution of returns. However, as noted in section 6.1 the scale of disallowed costs, degree of efficiency challenge and one-off penalties means that there is greater likelihood of overspending on TOTEX than underspending relative to the allowances.

⁷⁶ See section 3.2 of Oxera (2020), 'Ofgem's TOTEX assessment approach at the RIIO-ET2 draft determinations: a review', September.

⁷⁷ We calculate the 21% based on the SHE-T RAV of approximately £3,800m (2018/19 prices) over RIIO-2 and multiply this by $(1 - 55\%) \times 0.22\%$ to get the outperformance adjustment in cash terms as approximately £4m per year. This is approximately £20m over five years. We then add the BPI of £32.4m such that the cash total is £52.4m. After accounting for SHE-T RIIO-2 sharing factor of 30.9%, the company has to underspend its TOTEX allowance by approximately £170m to generate the cash impact of the 22bp adjustment and BPI. This is about 21% based on the total RIIO-2 base TOTEX allowance of approximately £800m (2018/19 prices).

⁷⁸ Oxera (2020), 'Ofgem's TOTEX assessment approach at the RIIO-ET2 draft determinations: a review', September.

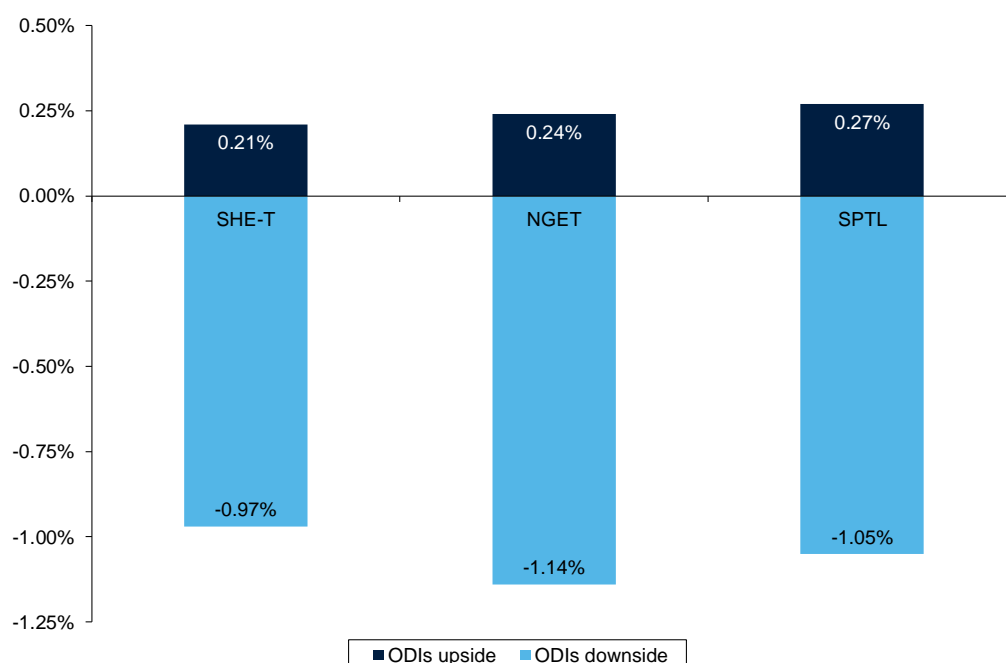
Table 6.1 TOTEX incentive mechanism

	Proportioned retained by SHE-T
RIIO-1	50.0%
RIIO-2	30.9%

Source: Ofgem (2020), 'RIIO-2 Draft Determinations – Scottish Hydro Electric Transmission', 9 July, p. 9; and Ofgem (2012), 'RIIO-T1: Final Proposals for SP Transmission Ltd and Scottish Hydro Electric Transmission Ltd', 23 April, p. 19.

6.3 Output delivery incentives and price control deliverables

Under Ofgem's Draft Determinations, the financial output delivery incentives (ODIs) are negatively skewed with a range of -1.1% to +0.2% on the RORE for electricity transmission networks. For SHE-T, Ofgem shows the ODI range to be -0.97% to +0.21% of RORE.⁷⁹ As a result, there is greater downside exposure than potential upside on a RORE basis.

Figure 6.3 ODI calibration for RIIO-2, potential RORE impact

Source: Ofgem (2020), 'RIIO-2 Draft Determinations – Finance Annex', p. 226.

At the same time, Ofgem has linked a high proportion of spend to PCDs. These have specified up-front allowances, which can be returned to customers due to a change in circumstance or if it is deemed that the company has failed to deliver the PCD. These are effectively one-sided, with the potential for cost allowances to be withdrawn but no equivalent upside.

6.4 Uncertainty mechanisms

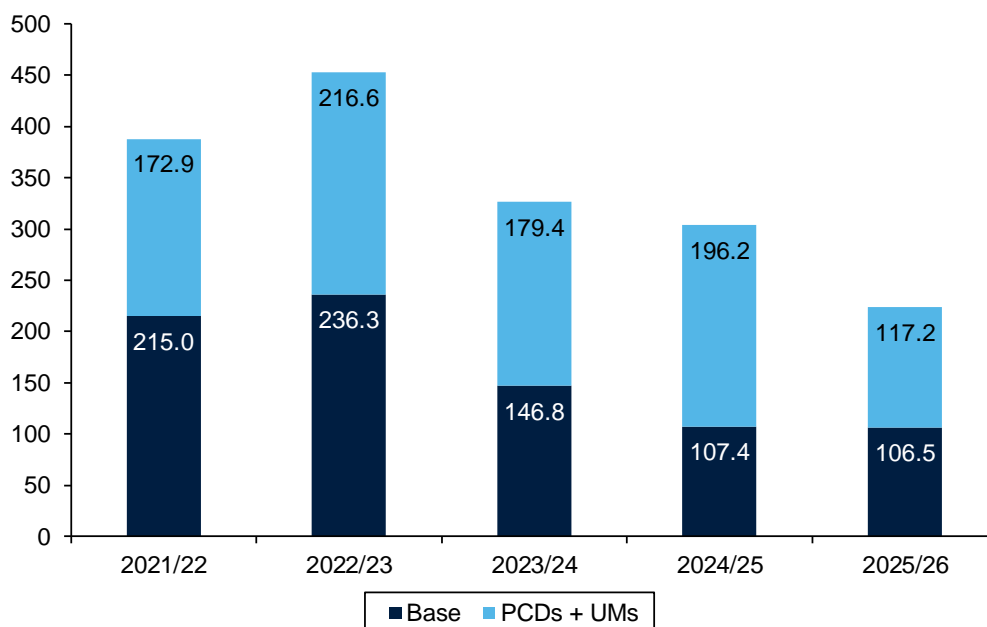
Ofgem has also made greater use of uncertainty mechanisms (UMs) in RIIO-2 with around 50% of baseline allowances linked to either uncertainty mechanisms or PCDs (Figure 6.4).⁸⁰ There are four main types of uncertainty mechanism:

⁷⁹ Ofgem (2020), 'RIIO-2 Draft Determinations – Finance Annex', p. 226.

⁸⁰ Ofgem (2020), 'RIIO-2 Draft Determinations Core Document', 9 July, p. 6.

- those covering volume drivers;
- re-opener mechanisms;
- pass-through mechanisms;
- indexation.⁸¹

Figure 6.4 Base allowances versus uncertainty mechanisms for RIIO-2



Note: All figures in £m 2018/19 prices.

Source: Oxera analysis of Ofgem (2020), 'Draft Determinations – RIIO-ET2 Licence Model', July.

In some instances, the uncertainty mechanisms are symmetric and would be expected to help to protect the company against downside risks—e.g. by increasing allowances where changes in circumstances lead to increased costs—as well as reducing upside from factors outside the company's control. For example, Ofgem has provided direct pass-through of bad debt costs and business rates. These mechanisms effectively narrow the distribution of returns around the central point.

However, the uncertainty mechanisms do not universally reduce risks for the company. Some provide Ofgem with increased ability to intervene ex post to reduce allowances or disallow expenditure at their own discretion (e.g. the Large Onshore Transmission Investment mechanism and the Medium-sized Investment Projects mechanism).

The extent to which these lead to a negatively skewed distribution of returns depends on whether there is equal likelihood that (i) the price cap will be increased to allow cost recovery when risks materialise and (ii) the price cap will be decreased where circumstances are favourable to the company.

In practice, it may be harder to put transmission charges up than to reduce them, because of a combination of factors that are both economic (e.g. competitor technologies) and political. This weakens the ability of the regulatory framework to guarantee recovery of costs when risks materialise.

⁸¹ Ofgem (2020), 'RIIO-2 Draft Determinations Core Document', 9 July, p. 56, para. 7.4.

6.5 Real price effects

Ofgem proposes to include forecast real price effects (RPEs) for labour, materials, and plant and equipment for SHE-T in upfront allowances with an ex post true-up to reconcile the differences in outturn CPIH and input prices indices. Ofgem states that this will happen as part of the Annual Iteration Process (AIP).⁸² To the degree that Ofgem's true-up does not rebase the input prices indices every year to match SHE-T's actual RPEs, there is thus a risk that SHE-T's actual input prices deviate more rapidly from Ofgem's allowances for RPEs. It is also not clear whether Ofgem's ex post true-up will provide financing costs for the differences in outturn CPIH and input prices indices. The lack of clarity around this process suggests that SHE-T may face additional costs not compensated for by Ofgem.

6.6 Summary

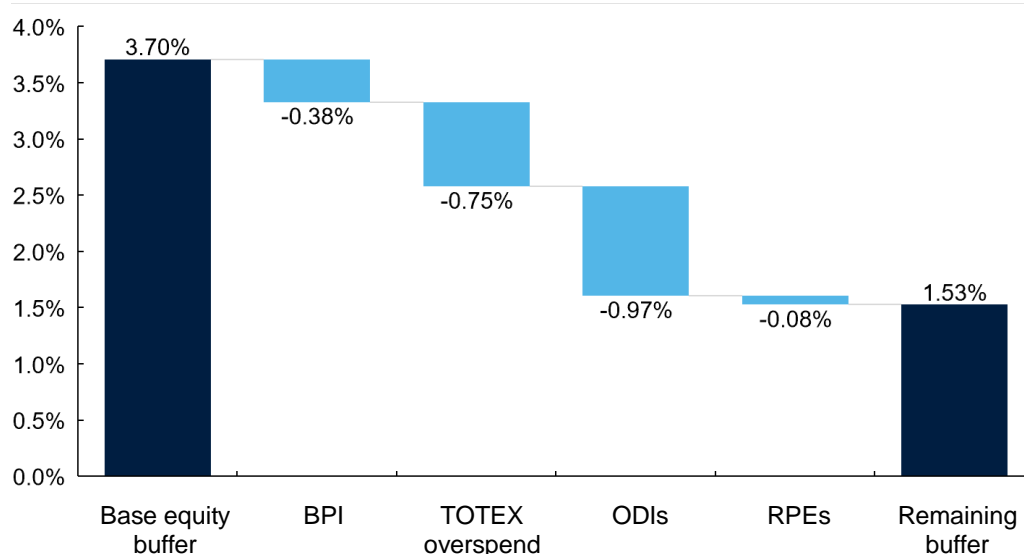
In Figure 6.5 we show how the SHE-T notional company equity buffer is eroded after accounting for some plausible downside risks:

- as a consequence of Ofgem determining an insufficient TOTEX allowance, it underperforms over RIIO-2 by the magnitude of the top-down modelling errors identified at the Draft Determinations in the Oxera TOTEX assessment report;⁸³
- it receives a total BPI penalty of £32.2m, as per Ofgem's Draft Determinations;⁸⁴
- it underperforms its ODIs and receives a penalty of -0.97% on RORE;
- it faces RPEs of 0.5% per year higher than allowed by Ofgem.

⁸² Ofgem (2020), 'RIIO-2 Draft Determinations Core Document', 9 July, p. 47, para. 5.29.

⁸³ 'As the Oxera TOTEX assessment report only considers the top-down benchmarking approaches used by Ofgem, this is likely to understate the full extent of the TOTEX challenge posed by Ofgem's insufficient draft determinations allowance.' See Oxera (2020), 'Ofgem's TOTEX assessment approach at the RIIO-ET2 draft determinations: a review', September.

⁸⁴ Ofgem (2020), 'RIIO-2 Draft Determinations – Core Document', 9 July, p. 123, p. Table 15.

Figure 6.5 Average annual equity buffer over RIIO-2 with downside shocks (% of RORE)

Note: The equity buffer has been calculated as $(1 - \text{notional gearing}) \times \text{cost of equity (real)}$. The BPI penalty is spread evenly over the five-year price control period.

Source: Oxera analysis.

The allowed return is reduced by 2.17% such that the SHE-T notional company is left with only 1.53% of RORE per year on average over RIIO-2 to protect the company and its customers.

The impact of these downside shocks on the financeability assessment is material—all key credit metrics significantly deteriorate, in particular the AICR worsens to below an investment-grade credit rating (Table 6.1). This analysis assumes that dividends can be cut further or equity can be issued to maintain the gearing assumed in the Draft Determinations. However, as noted in section 4.6, at 3.7% allowed equity return and a notional capital structure of 55%, the notional company is not able to achieve Ofgem's assumption of a dividend yield of 3%. There is thus even less scope for further dividend cuts to act as a mechanism for absorbing shocks in spite of the likelihood that these shocks would be larger than what Ofgem is assuming. Absent an injection of equity to maintain gearing at the Ofgem assumption, the metrics would worsen.

Table 6.1 Impact of downside shocks for the SHE-T notional company in RIIO-2

Key credit metrics	Notional company	Notional company, incl. downside shocks
Gearing (net debt/RAV) (%)	58%	58%
AICR (x)	1.52	0.96
FFO (interest expense)/net debt (%)	10.7%	9.0%
RCF/net debt (%)	8.3%	6.7%

Note: The downside shocks have been modelled using a reduction of 2.12% in Ofgem's allowed equity return. The above scenarios assume CPIH inflation. All metrics are simple averages over RIIO-2.

Source: Oxera analysis.

7 Conclusions

Ofgem has concluded that the RIIO-2 Draft Determinations are financeable for SHE-T on the basis of Ofgem's assumptions about the notional capital structure. We have identified multiple concerns with this analysis and find that the evidence does not support a conclusion that the Draft Determination for SHE-T meets the requirements of the financeability duty. In particular:

- two key assumptions for modelling credit metrics (proportion of index-linked debt and gearing) have been changed since the SSMD in a direction that gives the appearance of improved financeability without making any changes to revenue allowances, suggesting that these assumptions are endogenous to the financeability assessment rather than grounded in external evidence;
- Ofgem's assumption for the proportion of debt that is index-linked is heavily distorted by one company. Removing National Grid significantly reduces the industry average. Neither SHE-T nor SPTL had any index-linked debt in 2017/18;
- the 55% notional gearing assumption is not consistent with the average actual gearing level observed in the market (62%), and seems to be driven by the objective of giving the appearance the notional company is financeable rather than being grounded in evidence external to the financeability assessment;
- Ofgem's PCFM indicates that the SHE-T notional company has to 'gear up' in order to maintain a 3% notional dividend yield. This means that SHE-T would not be able to pay its notional 3% dividend yield, as assumed by Ofgem, and is indicative of a fundamental deficit in the allowed return on capital;
- the advancement of revenues from future price controls by changing indexation from RPI to CPIH has significantly increased credit metrics for RIIO-2, thereby masking the underlying financeability problem;
- the allowed equity return (3.70% CPIH, real) is insufficient and significantly lower than the RIIO-2 cost of equity range of 5.27–6.23% (CPIH, real) at 55% notional gearing found by the Oxera report for the ENA. The allowed equity return includes a 22bp reduction as an 'outperformance adjustment', which suffers from several estimation issues and acts against the consumer interest by eroding dynamic efficiency incentives;
- Ofgem's TOTEX allowances are too low as a result of Ofgem's cost assessment framework, which removes the impact of potential positive modelling errors but retains the impact of negative modelling errors by applying the most stringent benchmark available. In combination with Ofgem's incentives and risk-sharing mechanisms, this means that the overall balance of risk and reward in the RIIO-2 package is subject to a negative skew. The combination of the outperformance adjustment and the Business Plan Incentive (BPI) means that even if Ofgem's base TOTEX allowance accurately reflects the P50 of the cost distribution, SHE-T would need to outperform by 21% to generate the base return. This has not been factored in to Ofgem's financeability analysis.

Unmasking these issues shows that the true AICR would be much lower than presented in the Draft Determination absent the transition to CPIH indexation and based on assumptions for gearing and index-linked debt that are

consistent with evidence sourced from outside the financeability assessment. Therefore, the rating of the notional company will be much lower than BBB+/Baa1.

A credit rating downgrade will increase the cost of borrowing for the company, creating a mismatch with the allowed cost of debt which is based on the iBoxx Utilities index, the constituents of which have, on average, credit ratings of BBB+/Baa1. This implies that Ofgem's allowed WACC and the actual cost of capital are internally inconsistent, breaching Ofwat's financeability duty to ensure that investors earn an appropriate rate of return on their investments.

A1 Financeability assessment

Table A1.1 Full financeability assessment for the notional company plus sensitivities

	Notional company	Index- linked debt 25%	Index- linked debt 15%	Index- linked debt 0%	Notional gearing 60%	RPI inflation	Dividend yield 5%
Credit metrics							
Gearing	58%	58%	58%	58%	62%	59%	60%
FFO interest cover (interest expense)	4.0	4.0	4.0	4.0	3.6	3.6	3.8
FFO interest cover (cash interest)	4.8	4.6	4.4	4.0	4.4	4.8	4.6
AICR	1.52	1.47	1.38	1.26	1.34	1.12	1.46
Nominal PMICR	2.2	2.2	2.2	2.2	2.0	2.2	2.1
FFO / net debt (interest expense)	10.7%	10.7%	10.7%	10.7%	9.4%	9.0%	10.1%
FFO / net debt (cash interest)	11.3%	11.2%	11.0%	10.7%	10.0%	9.9%	10.6%
RCF / net debt	8.3%	8.3%	8.3%	8.3%	7.5%	6.7%	6.3%
RCF / CAPEX	0.7	0.7	0.7	0.7	0.7	0.6	0.6
Equity metrics							
EBITDA / RAV	8.5%	8.5%	8.5%	8.5%	8.3%	7.5%	8.5%
RORE	3.80%	3.80%	3.80%	3.80%	3.80%	2.97%	3.80%
Dividends / regulated equity	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	5.0%
Dividend cover (Ofgem)	0.4	0.4	0.4	0.4	0.2	(0.2)	0.2
Dividend cover (Fitch)	4.8	4.8	4.7	4.6	5.2	4.3	2.9

Note: All metrics are simple averages over RIIO-2.

Source: Oxera analysis.

www.oxera.com