

SSEN DISTRIBUTION RIIO-ED2

FINANCE AND FINANCEABILITY STRATEGY

RIIO-ED2 Business Plan Annex 19.1



Scottish & Southern
Electricity Networks

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INTRODUCTION

The Finance Annex sets out our Proposed Financial Parameters ('Financial Parameters' or 'Proposed Parameters') for RIIO-ED2 comparing to Ofgem's Working Assumptions (WA) while considering the impact on customers in the short and long-term.

We have evaluated our Financial Parameters against Ofgem's Financeability Guidance¹ for consistency while also considering the sensitivities set out in our Business Plan in relation to indexed linked debt, additional borrowing costs and additional expenditure through Uncertainty Mechanisms (UMs). The financial parameters and policies set out in our Business Plan are also summarised in this Finance Annex and noted where they differ from Ofgem's Working Assumptions. The Finance Annex should be read in conjunction with our overall Business Plan where our Finance Section is based on Ofgem's WA² and Business Plan Guidance ('Guidance')³. The structure of the Finance Annex is as set out as follows:

1. Allowed Revenue and Customer Bills
2. Compliance with Ofgem Guidance
3. Setting the Right Cost of Capital
4. Financeability Assessment

Our Proposed Financial Parameters which is summarised in Table 1 below compared to RIIO-ED1 and Ofgem's WAs. The capitalisation rate is consistent across both Ofgem's WAs and our Financial Parameters as it is based on the natural split of operating and capital costs.

¹ Ofgem (2019) Financeability Guidance for RIIO-2 or Ofgem (March 2021) SSMD Finance Annex as these are broadly the same in relation to Financeability Guidance

² Ofgem (March 2021) SSMD Finance Annex

³ Ofgem (April 2021) RIIO-ED2 Business Plan Guidance

Table 1 - Financial Parameters Summary

	RIIO-ED1	RIIO-ED2	
	Financial Parameters	Ofgem's Working Assumptions	Our Financial Parameters
Inflation	RPI	CPIH	CPIH
Cost of Equity	6% (7% CPI)	4.4%	5.9% to test our plan for credit financeability only ⁴
Cost of Debt	2.04% (3.04% CPI)	2.09%	2.09%
	10 - 20yr Trombone Index	17 yr trailing average utilities index	17 yr trailing average utilities index
Outperformance Wedge	N/A	0.25%	0.00%
WACC	3.43% (4.43% CPI)	3.01%	3.61%
Gearing	65%	60%	60%
Capitalisation	SHEPD - 62%	65%	65%
	SEPD – 70%		
Inflation linked debt	Not Stated	25%	10%

Our Financial Parameters differ mainly on the Cost of Equity (CoE) whereby we have proposed a higher CoE based on our evaluation of market evidence and regulatory precedents. This has been assessed based on the financeability requirements to retain the target credit rating of BBB+ / Baa1 in particular the impact on the Adjusted Interest Cover Ratio (AICR).

⁴ Our selection of 5.9% is towards the bottom of the Oxera (June 2021) CoE range only by virtue it is the minimum number required to reach 1.4x AICR for the target investment grade credit rating. As we have set out throughout our Business Plan, we do not believe this is appropriate as it only addresses the minimum requirements without any adequate protection for credit or debt financeability.

The point estimate of 5.9% is too low for equity investment and if the AICR is set higher at 1.5x in accordance with Ofgem's own threshold for RIIO-T2 and GD2⁵, then the CoE should be at least at the mid-point of Oxera's range i.e. 6.3%. This is evidenced by an extensive report prepared for the ENA by Oxera⁶ on behalf of Distribution Network Operators (DNOs). Although this report was prepared in June 2021 prior to the CMA decisions on RIIO-2 appeals for T2 and GD2, the evidence is consistent with the CMA decision on PR19 appeal while noting energy network differences. Therefore, despite the CMA deciding not to intervene on the RIIO-2 decision on the CoE, this evidence shows that Ofgem has made an error in setting the CoE for RIIO-2 including RIIO-ED2. This is summarised alongside other evidence in this Finance Annex.

For asset lives and capitalisation rates as well as other financial parameters, we have not deviated from our Draft Business Plan proposals following a review of the evidence and stakeholder comments. We have considered changes to these parameters in Chapter 19 of our Business Plan and this annex therefore does not go into any further analysis.

We have set out our financeability assessment on our financial proposals and sensitivities with additional information where appropriate on credit financeability and equity injection/dividends (net cash to shareholders) in addition to Chapter 19 of our Business Plan.

We have also not set out any comparative analysis on whether Electricity Distribution has a different risk profile to Electricity Transmission, Gas Transmission or Gas Distribution. We have developed a detailed risk methodology and evidence comparing multiple sectors in the UK and in Europe including Water and Energy networks. We have not included this in our Business Plan but intend to provide this detailed methodology and evidence in Q1 2022.

⁵ Ofgem in their Final Determination on RIIO-T2 and GD2, they have an outcome in excess of least 1.5x which is a more appropriate level as it provides protection during periods of large capital investment.

Ofgem Final Determinations for RIIO-T2 and GD2, Finance Annex, Tables 14 and 34.

⁶ Oxera, The cost of equity for RIIO-ED2, Prepared for the ENA for DNOs, June 2021

1. ALLOWED REVENUE AND CUSTOMER BILLS

We have set out the methodology and comparison of customer bills over the RIIO-ED1 period on average compared to the RIIO-ED2 period in our main Business Plan. For brevity, we have not repeated the methodology in our Finance Annex and have instead set out the comparison on customer bills should we use a higher Cost of Equity in line with market evidence. We note that we have assessed our Financial Parameters against Financeability metrics after adjusting Ofgem’s definition of the notional company which as noted in our main Business Plan is inconsistent with the sector financial characteristics.

Figure 1 sets out the allowed revenue with Figures 2.1 and 2.2 showing the impact on customer bills. This demonstrates that customer bills for SEPD remain broadly flat when compared to RIIO-ED2. For SHEPD bills decrease on average by 1% in the RIIO-ED2 period when using our Financial Parameters. We have set out why in the long term customers would be worse off under Ofgem’s WAs compared to under our Financial Parameters considering financeability, the risk of underinvestment and intergenerational value transfers between generations of customers.

Figure 1 – Allowed Revenue with our Financial Parameters

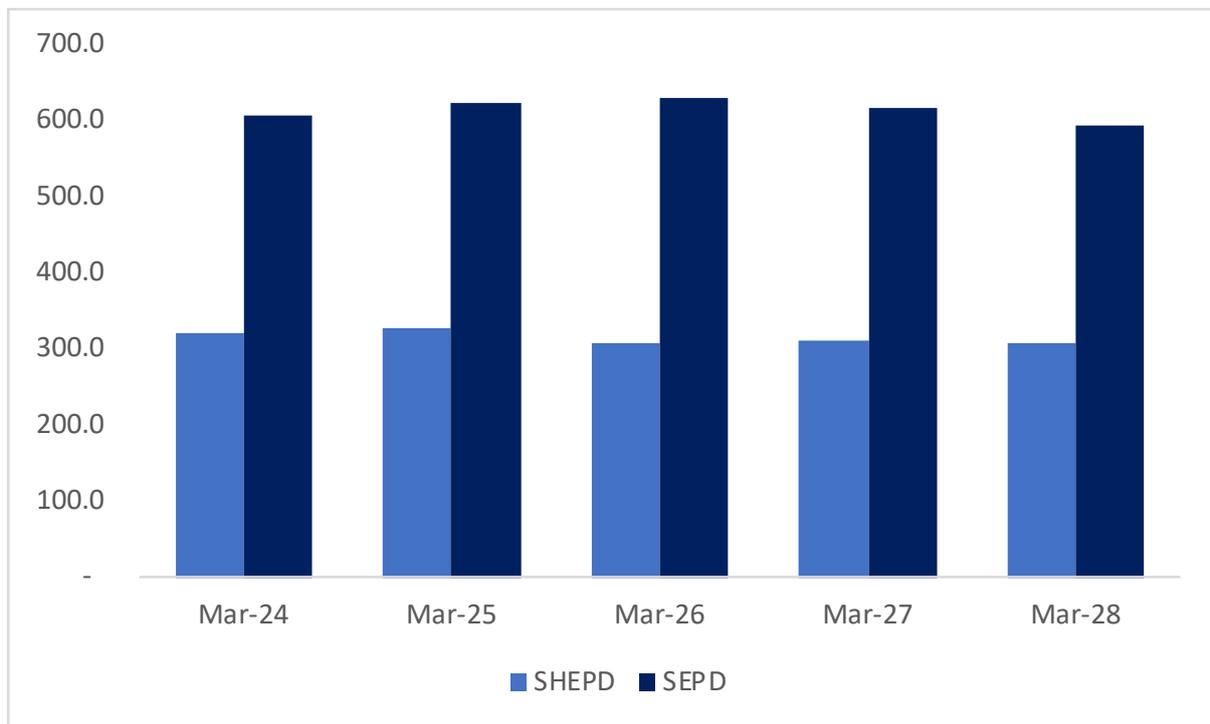


Figure 2 – Customer Bills with our Financial Parameters

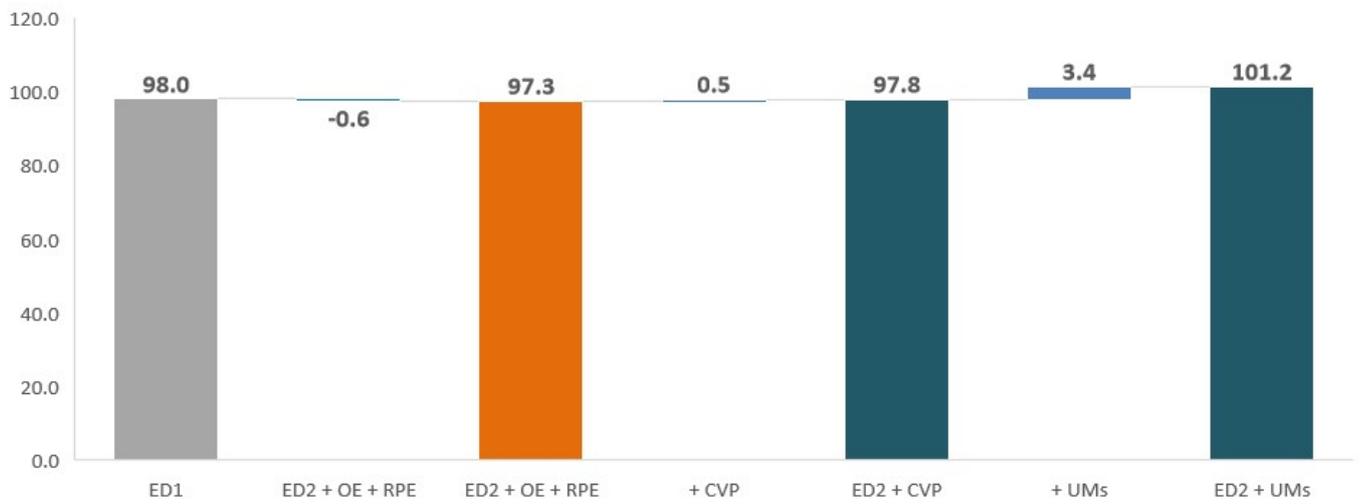


Figure 2.1 – SEPD ED1 average bill vs estimated ED2 bill (£ in 2020/21 prices)

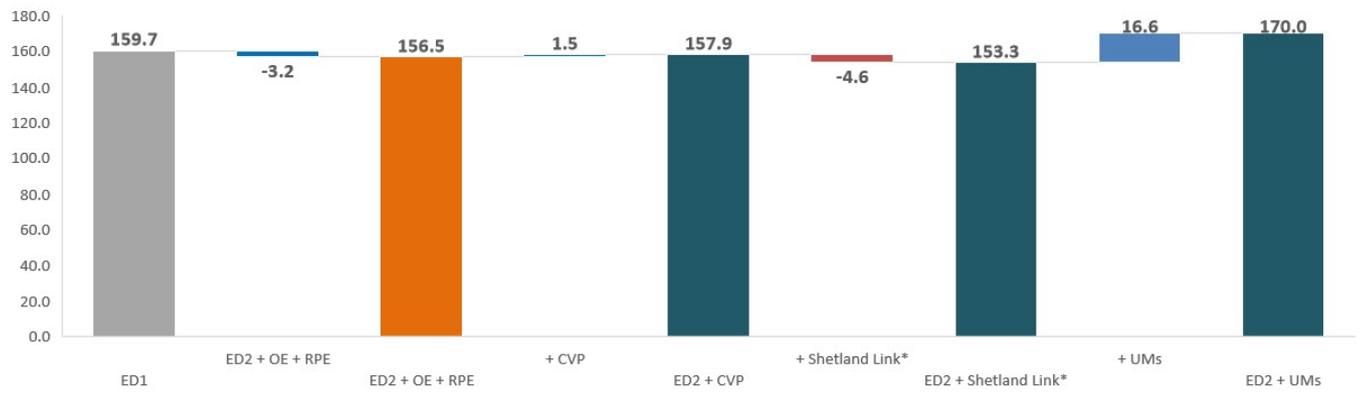


Figure 2.2 – SHEPD ED1 average bill vs estimated ED2 bill (£ in 2020/21 prices)

2. COMPLIANCE WITH OFGEM GUIDANCE

Ofgem set out in their Guidance in their SSMD and SSMD-F what companies should include in their Business Plan covering the financial parameters, sensitivities and financeability assessment. For ease we have set out the main components of the Ofgem Guidance in Table 2.

Table 2 - Ofgem Guidance Compliance

Financial Parameter	Ofgem Guidance	Compliance
Cost of Equity	Use Ofgem WA for evaluating the Business Plan on 4.65% CPIH-real in our Business Plan. This includes the 0.25% Outperformance Wedge (OW).	We have only used Ofgem's WA for the CoE in our Business Plan. Our own Financial Parameters are contained in this separate Finance Annex.
Cost of Debt	Use Ofgem working assumptions for evaluating the Business Plan using the 17 year trailing utilities index	We have only used Ofgem's CoD mechanism noting where further work is required.
Expected outperformance wedge	Use Ofgem working assumption of 0.25% outperformance wedge	We have included the outperformance wedge in our Business Plan noting we do not agree with its use and neither does the CMA ⁷ .
Gearing	Use 60% Gearing	We have only used 60% notional gearing.
Asset Lives	Use 45 year asset lives unless otherwise justified.	We have used 45 year asset lives but have tested alternatives as part of our assessment in our Business Plan.
Capitalisation Rate	Use the natural capitalisation rate with clear rationale.	This is set out in our Business Plan. We have included an adjustment for the Shetland Link contribution in your Business Plan.

⁷ Para 28 and 29, CMA Summary of Final Decision, RIIO-2 Energy Licence Modification Appeals, 28 October 2021 [Summary of final determination \(publishing.service.gov.uk\)](https://publishing.service.gov.uk)

Financial Parameter	Ofgem Guidance	Compliance
Tax treatment	Set out our proposals of treatment of tax.	This is set out in our Business Plan.
Pass through costs	Set out our proposals of treatment of pass through costs	This is set out in our Business Plan.
Notional company of proportion of inflation linked debt	Set out our proposal of a working assumption of 25% for proportion of inflation linked debt	This is set out in our Business Plan noting why evidence illustrates this is too high and assumption. We have tested financeability on a lower ILD ratio of 10% which is more reflective of the ED sector.
Dividend and Equity Issuance policy	Set out our Dividend and Equity Issuance Policy. Assume for financeability assessment a dividend yield of 3% and a cost for equity issuance cost of 5%	This is set out in our Business Plan. We have set out why Ofgem's dividend yield of 3% is too low based on market evidence in this Finance Annex. We have also included analysis of the equity issuance required over the RIIO-ED2 period.
Financeability Assessment	Stress test against Ofgem WA and scenarios.	This is set out in our Business Plan and detailed tables in this Finance Annex with supporting analysis by Oxera ⁸ .
Notional vs Actual Financeability Assessment	Assess both the notional and actual company financeability.	This is set out in our Business Plan and detailed tables in this Finance Annex with supporting analysis by Oxera ⁹ .
Mitigating actions for Financeability	Set out where mitigating actions may be required to support notional and actual company financeability.	This is set out in our Business Plan and detailed tables in this Finance Annex.
Board Assurance	Set out Board Assurance requirements.	See Assurance Annex to our main Business Plan.

⁸ Oxera, RIIO-ED2 Cost of Debt and Financeability, Nov 2021

⁹ Ibid

As highlighted in our main Business Plan we have used both the Ofgem PCFM and our own internal financial model to obtain Board Assurance on our Business Plan. We also obtained additional financeability analysis via an independent third party to support our own assessment¹⁰. From this, we are confident that we are in compliance with the Guidance and our licence obligations.

We have carried out a review of the financial differences between the PCFM and our internal financial model and have not identified anything material that causes a divergence. As noted in our Business Plan, the Shetland Link treatment may need to change once the final accounting and taxation treatment is confirmed. This will ensure the treatment in the PCFM is reflective of the underlying substance of the transaction between SSEN-Transmission and SSEN-Distribution.

¹⁰ Ibid

3. SETTING THE RIGHT COST OF CAPITAL

Our approach to setting the Weighted Average Cost of Capital (WACC) or ‘Cost of Capital’ is through a balanced consideration of the evidence-base covering the Cost of Equity (CoE) and the Cost of Debt (CoD). These combined constitute the Cost of Capital and is evaluated using financeability analysis based on retaining the targeted investment grade of BBB+ / Baa1. We have considered the right level of CoE to retain and attract equity investors while setting the balance of debt to equity (the gearing ratio) is set accordingly for RIIO-ED2. Both of these elements of financeability must be satisfied to ensure complete financeability over the RIIO-ED2 period given that funding for investment comes from both debt and equity.

We have therefore set out our proposals for the CoE and CoD with reference to analysis and evidence set out in our Business Plan and associated financeability analysis.

3.1 COST OF EQUITY

The model used to calculate the CoE by Ofgem and other regulators is the Capital Asset Pricing Model (CAPM) and we see no evidence to deviate from this approach and regulatory precedent. We also note that calculating the CoE is not an exercise into the unknown and can be reliably estimated using robust and observable market evidence. Although the CMA decided not to change the CoE set by Ofgem for RIIO-T2 and GD2, the CMA did opine and rely on similar data and evidence when reaching their Final Determination for PR19¹¹. For example, as Oxera¹² set out that the CMA agreed with their evidence on using AAA rated bonds as the proxy for the risk free rate (RFR) rather than the Indexed Linked Gilts (ILGs) spot rate used by Ofgem.

Therefore, for several reasons set out in our Finance Annex and the Oxera report, Ofgem has set the CoE too low for RIIO-2 including RIIO-ED2. This becomes particularly evidence when credit financeability is undertaken as shown in Chapter 19 and in this Finance Annex when correcting for Ofgem’s errors in defining the notional company. This section focuses primarily on the setting the right CoE based on market evidence prior to setting out the right cost of debt, followed by further financeability analysis.

¹¹ This has been set out fully in the [Ofwat Price Determinations - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/94444/Ofwat_Price_Determinations_-_GOV.UK_(www.gov.uk).pdf) as well as reaffirmed compared to the energy appeals by Oxera (June 2021)

¹² Oxera, The cost of equity for RIIO-ED2, Prepared for the ENA, June 2021

The CoE evidence supports that equity returns have fallen since setting the CoE for RIIO-ED1 and that this should be reflected in RIIO-ED2. However, our analysis of the evidence since February 2018¹³ and as set out in our response to Ofgem consultations for the RIIO-2 Framework Decision and Sector Specific Consultation (SSC) shows that an appropriate range for the CoE is significantly higher than Ofgem’s proposals for the RIIO-2 period including RIIO-ED2. Based on a comprehensive assessment of the evidence since February 2018, Oxera¹⁴ prepared a report for the ENA for RIIO-ED2 covering all the key elements of the CoE. This is summarised in Table 3 below.

Table 3 – Summary of RIIO-2 Cost of Equity Estimates

Cost of Equity	Oxera 2020		Current Evidence		Change	
	Low	High	Low	High	Low	High
Real TMR (%)	7.00	7.50	7.00	7.50	-	-
Real RFR (%)	-1.00	-1.00	-0.93	-0.93	0.07	0.07
ERP (%)	8.00	6.50	7.94	8.43	-0.07	-0.07
Asset Beta	0.38	0.41	0.37	0.40	-0.01	-0.01
Gearing (%)	60	60	60	60	-	-
Debt Beta	0.05	0.05	0.05	0.05	-	-
Equity Beta	0.88	0.95	0.85	0.93	-0.03	-0.02
Real Cost of Equity (%)	6.00	7.08	5.81	6.87	-0.19	-0.21

Source: Oxera Analysis

When assessing the CoE we have relied on the most robust and reliable evidence that is observable and based on central finance theory as used by practitioners. We have also evaluated a number of *cross checks* in selecting the point estimate within a range which was proposed by Oxera¹⁵ on behalf of the Energy Networks Association (ENA).

¹³ Oxera report, The cost of equity for RIIO-2 – A review of the evidence, Prepared for the ENA, (Feb 2018) available at: https://www.oxera.com/wp-content/uploads/2018/07/ENA-cost-of-equity_2018-02-28.pdf.pdf

¹⁴ Oxera, The Cost of Equity for RIIO-ED2, Prepared for the ENA, June 2021

¹⁵ Ibid

We do not agree with Ofgem's use of less reliable cross checks in setting the CoE including those which have either a higher or lower value in comparison to the range set out by Oxera in Table 3 above. Based on our evaluation of the balance of evidence, we do not believe that Ofgem has correctly set the range for the CoE and that Ofgem's WA is too low as we have illustrated in our Business Plan. The conclusion of the CMA on the appeal on PR19 as noted above supports this evidence for the RFR and partially accepts the evidence on the treatment of RPI vs CPI real Total Market Returns (TMR). Further points robust and superior evidence provided by Oxera in their RIIO-ED2 report support further changes are required to the TMR to reflect the errors made in setting the TMR as well as the debt and equity beta which materially affect the CoE.

We have not included all evidence in our Finance Annex or submitted Business Plan and instead rely on our responses to Ofgem's consultations and reports submitted to Ofgem prepared for the ENA as well as other evidence submitted to Ofgem. The Oxera report is the most up to date assessment of the market evidence on setting the CoE despite the CMA's indecision on the CoE set by Ofgem for RIIO-T2 and GD2.

We have elected to test our Business Plan for credit financeability only using the minimum CoE to reach the 1.4x AICR ratio as shown in Chapter 19. As noted in Chapter 19 and in our Financeability analysis, Ofgem use 1.5x as the threshold which is more appropriate given the high capex environment to drive the transition to NetZero. When considering the credit financeability in isolation, the minimum CoE should actually be more in line with the middle of the Oxera range i.e. 6.3%¹⁶. In PR19, the CMA elected to aim up on the CoE and there is more than sufficient evidence that aiming up is required to protect consumers. In our Draft Business Plan, we had elected to use the 90th percentile on the CoE range being around 6.75% on that basis. Following feedback from consumers and stakeholders, we have re-evaluated our proposed CoE and tested this on a minimum threshold based on credit financeability test of above 1.4x (but preferably 1.5x) and the conclusion is still that Ofgem has set the CoE too low for RIIO-ED2.

Summary of CoE evidence

We have not repeated every aspect of the Oxera review of CoE evidence for RIIO-ED2 but have relied upon it as a consolidation of evidence to date.

Oxera note that the TMR is a relatively stable parameter that is observable over a long period of time. Ofgem have relied on the UKRN study to deflate the nominal equity market returns by an estimate of historical CPI inflation rather than published data on RPI inflation. Oxera investigated the historical RPI series and concluded that their analysis demonstrates the TMR should be materially higher in line with their range. The back-case of the CPI index is flawed and incomplete whereby the ONS is still reviewing the data used to construct that new index.

¹⁶ Ibid

Ofgem should have relied upon the historical RPI series to delate nominal equity market returns since it is directly observable and does not suffer from the same issues identified in the back-cast CPI series. This is still an error made by Ofgem and must be addressed as part of Draft and Final Determinations.

Oxera also summarise that the use of geometric and arithmetic average of historical equity returns by UKRN produces a lower estimate than undertaken by Cooper (1996)¹⁷. Ofgem has incorrectly used the geometric average and applied a subjective uplift to arrive at the arithmetic average to account for what they believe is serial correlation in equity market returns. However, in analysing market evidence, there is no presence of serial correlation and therefore it is wrong to use the geometric average with a subjective uplift. Instead Oxera conclude that it is more appropriate and reliable to directly use the arithmetic average of equity market returns.

The Risk Free Rate (RFR) has also been materially understated by Ofgem based on market and academic evidence. This is a result of the convenience yield or premium that exists in government gilts which therefore understates the proxy for a zero beta asset i.e. the RFR within the CAPM. When accounting for this, Oxera note that it is more appropriate to either uplift the government gilt rate or use AAA rated corporate bonds with an adjustment for residual default risk. They note that the uplift should be between 0.5% to 1% on the government gilt rates and forms the basis of their estimate. The CMA¹⁸ decided that relying on AAA rated corporate bonds is a more appropriate proxy as part of their decision on PR19 but elected not to determine for the RIIO-2 appeals on this basis. Ofgem must align their decision to the CMA's position on PR19 for setting the RFR reflective of the evidence.

Other evidence Oxera notes includes updating the Dividend Discount Model (DDM) using updated data and they conclude that using the Bank of England's specification the TMR is materially higher than their own estimate. Oxera also review survey evidence in addition to the evidence they reviewed for investment managers¹⁹ and conclude similarly that this evidence is unreliable but if interpreted needs adjusted for the basis it has been prepared²⁰. We also note that we can place no reliance on Market to Asset Ratios (MARs) to inform the setting of the CoE as it is subject to error due to the range of assumptions that affect a valuation of a regulated utility. We also note that the CMA did not rely on MARs in its determination on PR19 due to interpretation errors. Regardless of the reported premium paid for the complicated Western Power Distribution (WPD) transaction with National Grid, no conclusion can be reliably drawn compared to observable market evidence.

¹⁷ Cooper, I. (1996) 'Arithmetic versus geometric mean estimates: Setting discount rates for capital budgeting', *European Financial Management*, 2:2 1996 pp 156-67

¹⁸ [Ofwat Price Determinations - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/424242/Ofwat_Price_Determinations_-_GOV.UK_(www.gov.uk).pdf)

¹⁹ Oxera report, Review of RIIO-2 finance issues – Rates of return used by investment managers (March 2019)

²⁰ Oxera analysed this information and provided a report outlining why Ofgem's analysis is incorrect. Ofgem has misinterpreted the basis for which these estimates are provided publicly. The estimates are heavily regulated by the Financial Conduct Authority (FCA) and therefore cannot be relied upon as a guide to future returns as set out in the FCA Code of Business.

When considering the credit financeability issues that arise during RIIO-ED2, it shows that the CoE has been set too low which is observable, measurable, and could have a detrimental impact on investment during the RIIO-ED2 period if not corrected.

Ofgem has also referred to evidence for OFTOs and highlighted that the returns are falling over the period since OFTOs commenced. However, we note that this evidence is not observable whereby we have requested it on several occasions, and the equity returns increase significantly when including a terminal value (TV) in valuation models. We also note that Ofgem is consulting on whether to extend the revenue period meaning there is likely to be even a small TV in OFTO bidders models.

Oxera did undertake a comprehensive and observable assessment of the asset risk premium and debt risk premium in regulatory decisions as well as evaluating Ofgem's point estimates. They conclude that their range is more appropriate when compared to Ofgem's methodology whereby Ofgem's estimate is around the 15th percentile based on observable market evidence. This cross check does not suffer from the same issues that less reliable or observable estimates such as the DDM or MARs.

Risk and Beta

One of the most significant components of the CoE is the estimate of Asset Beta, Debt Beta and the methodology for de-leveraging and re-leveraging the equity beta. Oxera's evidence includes an update to their evidence collated during the RIIO-2 consultation period. In doing so, they consider Ofgem's approach compared to their own methodology which remains substantially unchanged. Oxera set out the basis of their methodology including why they have excluded UK water companies and include a wider range of energy networks with similar characteristics to the UK energy networks.

In particular we note that the CMA and Ofwat did not use energy company betas in determining the CoE for PR19 and we see no reason why water company betas would be appropriate for an energy price control. National Grid is the minimum possible beta point that can be used and is likely to be understated due to the lower beta on US regulated companies of which National Grid owns. The differential between the CMA determined CoE for PR19 and the uplift on the CoE by using the asset beta of National Grid's beta is at least 1%. This is supported by the credit financeability analysis which shows the CoE must be increased significantly after correcting for Ofgem's error on defining the notional company. Oxera have noted in Figure 5.2 of their report that under any estimation window for beta (2, 5 or 10 year) the observable beta for National Grid is higher than the listed water companies thereby illustrating the need to differentiate on the CoE for energy networks.

When considering all of Ofgem's estimates on the available and reliable evidence on the CoE, Ofgem's has downwardly biased all of the comparators of the CAPM. We intend to present extensive evidence on the risk of energy networks using a robust methodology in Q1 of 2022 after completion of the work. This will further support this position that the CoE has been set too low and there should be a material difference with the UK water companies.

3.2 ALLOWED VS EXPECTED RETURNS AND THE “OUTPERFORMANCE WEDGE”

Ofgem’s Working Assumption for RIIO-2 CoE is 4.4% (CPIH-real) with an underlying CoE of 4.65% (CPIH-real) where Ofgem has made a deduction to the CoE of 0.25%. This deduction relates to what is termed as the Allowed vs Expected return adjustment or Outperformance wedge (OW). The OW adjustment is based on Ofgem’s assertion that investors expect some outperformance in a price control which supplements the base return, and therefore there should be a deduction equal to that expectation from the base return. We do not agree with this adjustment is appropriate and in fact has a damaging effect on incentive properties.

Firstly, the CMA’s decision on RIIO-T2 and GD2²¹ concluded the following in relation to the OW:

“our view is that GEMA has not demonstrated sufficiently why the extensive set of tools it used for RIIO-2 should be regarded as providing insufficient protection for customers. Based on the evidence provided to us, we have found that:

- a) There were a number of errors in GEMA’s analysis of the extent to which operational outperformance in RIIO-2 should be viewed as probable;*
- b) Even if GEMA’s concerns about the likelihood of operational outperformance had been substantiated, the outperformance wedge would be a poorly designed mechanism to address these concerns; and*
- c) Given the problems identified in (a) and (b), there was a realistic possibility that the outperformance wedge, if introduced, might also undermine broader regulatory certainty which could result in increased costs to consumers over time.*

We have therefore determined that GEMA was wrong and have upheld this ground of appeal. We have ordered that the decision to introduce the outperformance wedge should be quashed and substituted with our decision to remove the outperformance wedge and associated backstop.”

The CMA’s conclusion on why the OW mechanism is “poorly designed” also reflect the fact it is unnecessary as there are sufficient regulatory tools, many of which are being deployed in RIIO-2, which address Outperformance at source rather than as an arbitrary adjustment. As confirmed by the CMA decision, the arbitrary nature of the OW risks undermining broader regulatory certainty which would result in increased costs to consumers over time. Ofgem should focus on these regulatory tools and remove the OW which will stifle efficiency and innovation which will lead to higher costs for consumers. Outperformance within a price control is something that should be encouraged and incentivised rather than incorrectly characterised as damaging for consumers.

²¹ Para 28 and 29, CMA Summary of Final Decision, RIIO-2 Energy Licence Modification Appeals, 28 October 2021

[Summary of final determination \(publishing.service.gov.uk\)](https://publishing.service.gov.uk)

Ofgem failed to set out sufficient or robust evidence during the RIIO-2 price controls or during the CMA appeal as to why outperformance cannot be controlled at source, why incentives and outperformance is damaging to consumers and that the OW mechanism was an appropriately targeted mechanism superior to existing regulatory tools. This is expanded upon based on analysis provided during the price control to Ofgem and subsequently to the CMA.

The overall financial package and range of returns is set on the current price control therefore the cost of equity cannot be adjusted based on an expectation of future performance as a result of past analysis. Frontier Economics²² appraised Ofgem’s proposals and they concluded that *“As far as the theoretical foundations Ofgem relies upon are concerned, these are deeply flawed.”* and *“MPW fail to consider the wider implications of forcing convergence [between allowed return and expected return]”*. Frontier also outline that price controls have historically been calibrated more symmetrically and are not therefore a *one-way bet*. In essence RIIO-1 was designed with the specific intent of being a high powered incentive framework with performance by companies forecasted to be in the range set out by Ofgem in RIIO-ED1. It is therefore wrong to assume RIIO-ED1 will happen in RIIO-ED2 when there has been a material change in the framework between price controls. The CMA highlighted that there was a number of “errors” in Ofgem’s analysis on past performance. This included the application of outperformance from a previous price control to a future price control when new mechanisms or adjustments to existing mechanisms have been made.

Ofgem has failed to take account of customer detriments in adopting this approach. Frontier outline several factors which harm customers. They point to erosion of investor confidence and increased investor risk (which leads to an increased cost of capital); weakened incentives for efficiency and innovation (which will dampen incentives to the longer-term detriment of customers); the distortionary impact on incentives to invest; and loss of clarity over price control calibration. The CMA agreed with this conclusion during the RIIO-2 appeals.

There are existing mechanisms and regulatory tools in place to address any uncertainty in the price control. Ofgem has sought to include several new mechanisms in RIIO-2 which inadvertently overlap and are being used to address the same *perceived* problems from RIIO-1. How these mechanisms interact is complex and therefore dampens incentives to the longer-term detriment of customers. Aiming off or down on the cost of equity range by differentiating between allowed returns and expected returns is unjustified and a break from regulatory precedent. No other regulator to date has aimed down or off on the cost of equity on the basis of potential future outperformance or expectation of outperformance. We also note that Ofwat has not elected to use the such an adjustment.

²² Frontier Economics, Adjusting baseline returns for anticipated outperformance – An assessment of Ofgem’s proposals, Prepared for the ENA (March 2019)

In our Draft Business Plan, we outlined the findings of a study undertaken by John Earwaker and Nick Fincham that reviews *Information Asymmetry and the Calibration of Price Controls*, the authors survey 32 ex-regulators across the UK's regulated sectors. This is a helpful study by bringing an external perspective to a number of the Ofgem proposed mechanisms. We believe it frames both the outperformance wedge adjustment, aiming up, and the general calibration of a price control which goes to the risk and return relationship. We have retained the summary of this study as it continues to support the decision to remove the OW mechanism by the CMA and which Ofgem must also do in their Draft and Final Determinations for RIIO-ED2.

One particular area of consensus emerging from the study is that modern regulators *“with a toolkit that is brimming with modern day regulatory weaponry”* ought to be able to design a balanced price control without a need for a lump-sum adjustment which assumes failure to achieve this outcome from the start.²³ Notably, the report concludes that *“provided that a regulator grounds its judgment in evidence [...] we do not think that the scales will always tilt in the direction of shareholders or that there is a reason to conclude that it is necessary to make a final, lump-sum cut to mop up regulatory error”* – and further that anyone omitting to use the discretions available as a regulator and instead opting for a lump-sum cut will *“leave themselves vulnerable to appeal”*.²⁴

In particular, we identify several interesting points that can be reasonably drawn from the study as follows:

1. The majority of previous regulators believe companies should have a fair opportunity to outperform in the price control.²⁵
2. Incentive based regulation is more likely to lead to better outcomes for consumers where outperformance does not mean a regulator got the price control wrong. It is most likely companies have responded positively to the incentives which is shared between investors and consumers.²⁶
3. One respondent also went on to say that when regulators push things too far, it can force radical and not always positive change. By way of an example, it was commented that the tough PR99 Ofwat Price review prompted many water companies to securitise their businesses (which was viewed as not necessarily in customers' long term interests).²⁷
4. Over 75% of respondents disagreed with the concept of deducting revenue or making an adjustment to a company after setting a price control as there are regulatory toolkits designed to set a price control fairly.²⁸ This was also likely to increase the regulatory error and was referred to as regulators 'abdicating' their responsibility. The study includes the statement that *“the idea that a regulator should, with one hand, strive hard to set fair expenditure allowances and output targets yet, with the other, concede that it is doomed to fall short – crucially, without any contemporaneous evidence to support this conclusion – left the vast majority of our regulatory experts feeling very uncomfortable.”*²⁹

²³ Earwaker and Fincham, *Information asymmetry and the calibration of price controls*, Aug 2020, p.27.

²⁴ *ibid*, p.27.

²⁵ *ibid*, p.13-14.

²⁶ *ibid*, p.21.

²⁷ *ibid*, p.16.

²⁸ *ibid*, p.17.

²⁹ Earwaker and Fincham, *Information asymmetry and the calibration of price controls*, Aug 2020, p.25.

5. Respondents commented that it is seen that regulatory errors are generally distributed evenly across sectors both in favour and against investors i.e. this is not a *one-way bet*.³⁰

One of the conclusions to the study that we believe is highly relevant today – particularly in the context of the material shift in Ofgem’s approach for RIIO-2 exhibited over the period – is the idea that regulators have failed in the past and should correct or over-correct for this error in the current price control. This perception has been around the balance of a price control in RIIO-1 and (unfounded) belief that there was a material regulatory error in favour of the companies. We do not consider that this is the case and in particular, the statement that reflects this quite succinctly is that *“earned rewards are part and parcel of a healthy regulatory regime and must not be subsequently rebadged - by regulators or by others - as a symptom of regulatory failure.”*³¹

We believe that this statement and the study overall makes important points of principle which shine a light over where Ofgem it’s proposals – indeed, Ofgem is called out specifically for its proposal to make an explicit deduction from the estimated cost of capital (in contrast to the position taken by other UK regulators and the CMA).³² The report also highlights the need for regulators to make decisions on allowed return grounded in evidence and in full consideration of their statutory objectives.

3.3 AIMING UP

There has been substantial literature on the concept and regulatory practice of *‘Aiming up’* in a range when setting the CoE for a price control or regulatory determination. Past regulatory best practice has been to aim up in the range due to the uncertainty in setting the cost of equity and to, in principle, avoid the risk of underinvestment. For the reasons explained in detail below, this risk of underinvestment is seen as more detrimental to consumers and wider society compared to an outcome which results in over investment.

Oxera³³ have reviewed this issue in regulatory settlements in particular providing evidence on behalf of Heathrow Airport Limited (HAL) at PR19. The CMA determined that it should aim up in PR19. The CMA also concluded in its Provisional Findings (PF) for the NERL appeal on RP3 that³⁴: *“If there were positive externalities and longer-term benefits to 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.”* Therefore, we believe that given the significant investment requirement in energy in the UK, we see the risk of underinvestment is materially heightened when compared to a steady state investment period and this issue therefore requires careful thought.

³⁰ *ibid*, p.16.

³¹ *ibid*, p.26.

³² *ibid*, p.7.

³³ Oxera, Is aiming up on the WACC beneficial to consumers? Prepared for Heathrow Airport Limited (17 April 2020)

³⁴ CMA, 2020, NATS (En Route) Plc /CAA Regulatory Appeal Final report, Page 246

We therefore believe Ofgem should be aiming towards the top of a range where the empirical and academic evidence is significantly in favour of that methodology. **Regulatory precedent also supports aiming towards the upper end of the cost of equity range to mitigate the risk of underinvestment and adverse impact on consumers**³⁵.

The lost benefit to consumers of deferral or cancellation of projects would be more damaging to consumers than the increase in costs resulting from a higher cost of capital. The issue with regulator decisions which overlook this consequence is that they will not recognise the cost of the lost investment to consumers until it is in this regard too late. Even if one were not to agree with the principle of aiming up in a range, it is clear from financeability analysis that the CoE has been set too low and should be at least within Oxera's range and preferably at least the middle of that range to ensure strong investment grade credit ratings are maintained (BBB+/Baa1).

³⁵ Frontier Economics, Adjusting baseline returns for anticipated outperformance – An assessment of Ofgem's proposals, Prepared for the ENA (March 2019)

3.4 COST OF DEBT

In RIIO-1, the CoD was annually indexed using a 10-20-year trombone of the average A/BBB non-financial iBoxx corporate bond indices. Below we consider CoD mechanisms with reference to Ofgem’s principles³⁶. Ofgem have proposed a 17 year trailing average utilities index mechanism instead of the average A/BBB. The Utilities index does not have a defined credit rating meaning the mix of the index may change over time to a materially different credit rating to those of energy networks. The risk of mismatch on investment grade credit rating between Ofgem’s target rating and the CoD index seems to have been ignored by Ofgem thereby creating a funding risk for networks over RIIO-ED2. This is illustrated in Table 4 below which is a smaller set of only utilities with any investment grade.

Table 4 – Utilities index compared to iBoxx non-financial corporate index

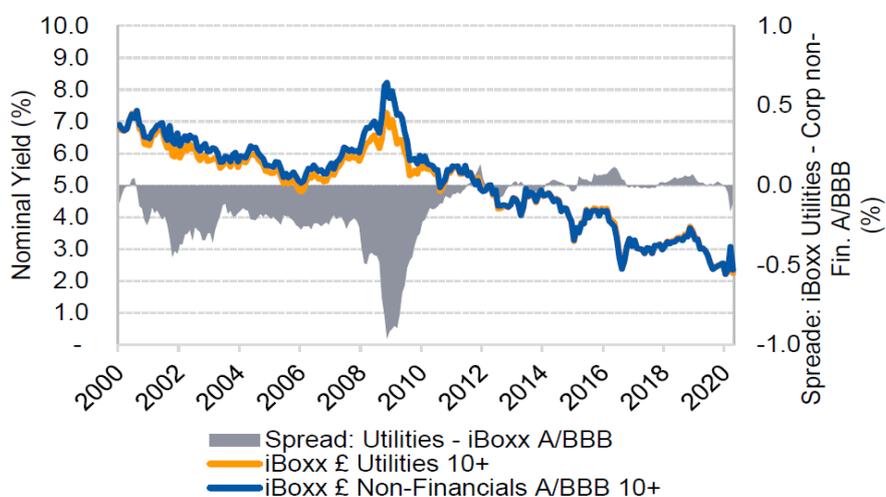
	iBoxx £ Corp Non-Financial A (10+Year)	iBoxx £ Corp Non-Financial BBB (10+Year)	iBoxx £ Corp Utilities (10+Year)
Sector	All Corporates, ex. Financials	All Corporates, ex. Financials	Utilities
Maturity	22 years	17 years	21 years
Credit rating	A	BBB	Investment Grade
# bonds	≈ 50	≈ 100	≈ 80
% GB Regulated	≈ 20%	≈ 30%	≈ 50%

Additionally, the Utilities index has tended to track the iBoxx index over time which we interpret as showing the indices have been similar and that the Utilities index may not differ when credit rating is similar which is shown by Figure 3 below. This shows that Utilities index was predominantly A rated up to 2011 in transitioned into A/BBB since 2011 hence the narrowing of the spread³⁷. The switch to the Utilities index is therefore not necessary and is likely to introduce funding risk through differences in credit rating where the index can deviate from the target rating for energy networks over the RIIO-2 period. This could introduce a significant issue given the financeability pressure and likely downgrade of electricity networks as a result of Ofgem’s too low CoE and incorrect definition of the notional company.

³⁶ RIIO-2 framework consultation (Ofgem, 2012) available at: www.ofgem.gov.uk/publications-and-updates/riio-2-framework-consultation

³⁷ NERA note that the spread was 28bps up until 2011 and has since reduced to 1bp with the change in credit rating.

Figure 3 – Comparing the spread of the Utilities index to the A/BBB iBoxx index³⁸



Spread: Utilities – Corp. non-Fin A/BBB	
2000-2010	- 28 bps
2011-2020	+1 bps
2000-2020	- 15 bps

There is a significant proportion of regulated utilities in the Utilities Index and it appears inappropriate not to benchmark against organisations with similar credit ratings and tenors that is within the iBoxx corporate non-financial A/BBB indices. We therefore believe the more appropriate index, considering all elements above, is to use the A/BBB non-financial corporate bond iBoxx index as the appropriate mechanism for CoD over RIIO-ED2.

In undertaking our analysis, we have commissioned an independent study by Oxera³⁹. In evaluating the CoD mechanism Oxera identified that there is a risk of underfunding on the notional company under a high interest rate scenario and when considering the additional costs of borrowing in Table 5. Oxera also note that SHEPD should be allowed a small company premium based on Ofgem’s criteria as set out for specific companies RIIO-GD2.

Additional Costs of Borrowing

NERA⁴⁰ undertook a study on behalf of the ENA for evaluating the Additional Costs of Borrowing in RIIO-2. Table 5 sets out evidence based view of the additional costs of borrowing by NERA which is consistent with our experience borrowing in capital markets. NERA’s assessment included analysis of companies additional costs of borrowing to estimate the costs of borrowing based on market evidence and company data. They also analysed evidence on the cost of mitigating a risk from the

³⁸ NERA Cost of Debt Indexation for GDNs and TOs for RIIO-2 (Sept 2020). A similar analysis has not been updated but will be evaluated at the time of the final Business Plan submission.

³⁹ Oxera, RIIO-ED2 cost of debt and financeability assessment, Nov 2021

⁴⁰ NERA, Additional Costs of Borrowing at RIIO-ED2, Prepared for the ENA, June 2021

switch to CPIH indexation from RPI. The calibration of the CoD mechanism must ensure that these other debt costs are efficiently funded.

Included in Appendix 2 of this annex is information provided by Morgan Stanley noting transaction costs, new issue premiums, and costs of carry which are in line with the ranges and values set out in Table 5 above. This is additional supporting market evidence that Ofgem has set the CoD additional costs of borrowing too low. We have tested financeability based on these additional costs being included as part of our sensitivity analysis.

Figures A3 shows the cost of carry is still significantly higher than Ofgem’s own assessment on such transaction costs. Additionally, in Figure A4 shows the new issue premium for debt which illustrates Ofgem also understates the costs associated with issuing new debt. Transaction costs must also be considered and Ofgem have set this as the minimum level required and is likely understated for ongoing costs.

Table 5 – Transaction and related costs of debt

	NERA Assessment
Transaction and related costs of debt	Bps
Transaction costs	7
New issue premium (NIP)	7
Liquidity / RCF cost	9
Costs of carry	9 – 19
CPI indexation costs	6
Total	38 – 48
Small company premium (SHEPD only)	9 – 17.5
Total	47 – 65.5

Oxera built upon this analysis in their report noting that Ofgem's calibration is the minimum required assuming interest rates do not increase. This is shown in Oxera's report whereby when including additional costs of borrowing, SSEN Distribution would be underfunded on a notional basis. When evaluating the small company or infrequent issuers principle applied by Ofgem in RIIO-GD2, Oxera, identify that SHEPD will be issuing less than £150m similar to the criteria applied to the Gas Distribution networks who attracted additional funding. **We have not included that additional cost or funding requirement on the basis of complying with Ofgem's Guidance, but believe that SHEPD should be provided with the small company premium additional CoD funding for RIIO-ED2.**

Indexed Linked Debt Market

As we noted in the Financability Section of Chapter 19 and in this Finance Annex, the basis of Index Linked Debt (ILDs) at an assumption of 25% is incorrect. The Electricity Distribution (ED) sector shows an average and median ILD proportion of around 10%. Additionally, in Figure A5 in Appendix 2, between Q4 2005 and Q4 2007, almost £15Bn of corporate index-linked issuance took place of which comprises around 50% of the current outstanding total ILD in issuance. Following liquidity difficulties in 2008, these investors stopped buying assets and index-linked issuance levels were significantly reduced. Today, there is a very limited market for inflation-linked bonds, with issuers having to raise finance in the nominal bond markets. The idea that the ED sector will have ILD at around 25% is therefore completely inappropriate.

Also noted in Figure A1 and A2 is the analysis which shows long term interest rates have fallen to historic lows following an extended period of the Bank of England base rate at an all time low of 0.1%, however it is unlikely that such accommodative monetary policy or stimulus will persist with economic reopening and inflationary concerns skewing rate risks to the upside. The distribution of risks are therefore towards significant rate increases over the RIIO-ED2 period thereby illustrating the need to ensure the CoD mechanism adequately compensates for all the additional costs of borrowing (higher than Ofgem's estimate) and the CoD mechanism is calibrated to avoid the adverse impact on financeability of interest rate rises.

4. FINANCEABILITY ASSESSMENT

In this section we have undertaken our financeability assessment within our Business Plan based on Ofgem's WA, their sensitivities and our own sensitivities for indexed linked debt and additional costs of borrowing for the notional and actual company. Oxera have also independently assessed these sensitivities compared to Ofgem's WAs. We have outlined our analysis of credit ratios based on these range of sensitivities including comparing this to our mitigating actions for addressing financeability concerns. This section considers the Basis of our Evaluation before presenting our Financeability Analysis.

4.1 BASIS OF OUR EVALUATION

The sensitivities we have tested are as follows:

- Removing the OW of 0.25% for the financeability assessment for the notional company consistent with the CMA decision on RIIO-2 Appeals.
- Evaluating the impact of 10% indexed linked debt (ILD) for the notional company which is consistent with the average and median for the Distribution Network Operators (DNOs) i.e. excluding GD2 and T2 ILD from the average scenario.
- Using a minimum CoE of 5.9% compared to Ofgem sensitivities for the notional and actual company. This includes testing what the minimum CoE must be to obtain an AICR of 1.5x consistent with Ofgem's position in RIIO-GD2 and T2 Final Determinations.
- Evaluating the impact of the additional costs of borrowing on the notional and actual company,
- Evaluating the impact of UM expenditure for the notional and actual company.

The tables summarising this analysis are included in full in the Appendix as well as being included in Oxera's independent report. The notional and actual company differ as noted in Oxera's analysis and as summarised in our Business Plan. The notional company is as defined by Ofgem with the actual company reflective of our actual capital structure and embedded costs of borrowing.

4.2 FINANCEABILITY ANALYSIS

We have summarised our findings below based on the notional and actual company based on comparing Ofgem's WAs compared to the absolutely minimum CoE required to achieve 1.4x AICR ratio. This is on the basis that this ratio must be above 1.4x in line with the credit rating agency guidance (Chapter 19) set out by Moody's. Fitch have a threshold of 1.5x and Ofgem applied a threshold of 1.5x for the AICR given the capex intensity of the RIIO-2 period. We have therefore tested the financeability of our Business Plan after correcting Ofgem's errors for the notional company and determined the minimum CoE accordingly. The detailed tables are included in the Appendix covering the range of scenarios stipulated by Ofgem on their WAs for the notional and actual company as well as for additional scenarios as noted.

Notional company financeability

For the notional company during RIIO-ED2, the AICR falls towards to the bottom end of Moody's guidance of 1.2–1.4x and 1.4–2.0x for a Baa rating. The AICR is slightly below the guidance for a Baa2 rating indicated in recent commentary from Moody's (i.e. 1.2x)⁴¹. The AICR is below Fitch's guidance of 1.5x for a BBB rating. FFO interest cover including inflation accretion is below the lower end of Fitch's guidance of 3.5x for a BBB rating. FFO/net debt (including and excluding accretion) is below the lower end of Moody's guidance for a Baa rating of 11%.

Correcting for the notional company assumption that 25% of debt is inflation-linked results in a decrease of the AICR well below Moody's guidance threshold for a Baa2 rating. As noted in Oxera's analysis, the ILD proportion is significantly below that proposed by Ofgem when only considering the Electricity Distribution Network Operators (DNOs) which shows a median and average ILD of around 10% rather than 25%. The 25% assumption has been overstated by Ofgem by relying on NGET and NGGT as well as the GDNs who skew the weighting upwards. Ofgem has therefore used ILDs as a means to artificially inflate key credit metrics over RIIO-ED2. Even prior to correcting for these errors, the AICR is below the 1.4x or 1.5x thresholds at 1.33x for SEPD and SHEPD. Therefore, after changing the assumption that 25% of debt is inflation-linked to 10% index-linked debt as well as removing the OW decreases of the AICR to around 1.20x for both SEPD and SHEPD, which is well below Moody's guidance threshold for a Baa1 rating. The AICR metric declines with a reduction in the proportion of index-linked debt due to the decrease in the Funds from Operations (FFO) as the net cash interest expense, which is deducted from FFO, is higher by virtue of removing the non-cash interest (non-cash interest means interest which is added to the principal debt over time as is the case with ILD and repaid or re-financed at the end of its maturity term).

The AICR for the actual company is still below Moody's minimum threshold for Baa1 credit rating when adjusting for the notional company definition to reflect the financial characteristics of companies. This includes adjusting the OW in addition to the ILDs noted above. This is highlighted by the figures shown in the main Business Plan Finance chapter and in the Oxera report⁴². When considering the actual company financeability, the ratios improve slightly after removing the OW using the actual proportion of ILD. The ratios improve slightly as the actual cost of debt is marginally better than the cost of debt allowance and the proportion of ILD is higher in SHEPD at 19% compared to 10% (whereas SEPD is at 7% of debt is ILD). As noted in the Cost of Debt section of this Finance Annex, there is a limited market for ILD and the idea that the ED sector will have high proportions of ILD during ED2 is simply incorrect.

This right assessment for undertaking financeability analysis is on the notional company but the notional company must be accurately defined. For example, the average sector gearing is in fact around 65% but Ofgem has had to reduce this to 60% to support financeability in RIIO-ED2. This is in addition to the inclusion of the OW as well as setting the assumed ILDs at 25%, well above the ED sector median or average ILD proportion. The CMA⁴³ also considered in PR19 that financeability is more appropriate set using the notional company rather than actual company, and therefore the notional company financeability is the principal test. This is why the definition of a notional company cannot be artificially created ignorant to the general sector characteristics, otherwise it masks a financeability issue. Therefore, from our assessment of the notional company for SEPD and

⁴¹ Moody's (2018), 'Regulated electric and gas networks – UK. Risks are rising, but regulatory fundamentals still intact', 29 May, p. 4.

⁴² Table 3.3, and Table 3.10 and Table 3.11 Oxera, RIIO-ED2 Cost of Debt and Financeability, Nov 2021

⁴³ [Ofwat Price Determinations - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/ofwat-price-determinations)

SHEPD, financeability metrics are under pressure and leave limited headroom for downside scenarios. Prior to testing financeability on a higher CoE to reach the right AICR threshold, we reviewed the implications for dividend yield and equity issuance over the RIIO-ED2 period.

Implications for Dividend Yield

The financeability assessment of the notional company suggests that Ofgem's assumption of a 3% dividend yield is not realistically possible without significant equity injection from shareholders far in excess of the 3% dividends yield. We have therefore examined the requirement for net new equity issuance over RIIO-2 to maintain a dividend assumption of 3% and a gearing of 60% with Oxera. Oxera identified that the net equity issuance required to maintain a notional dividend yield of 3% and a gearing of 60% would be around £338m and £291m for SEPD and SHEPD respectively. This is the equivalent of net cash to shareholders of (-4.3%) and (-1.8%) for SEPD and SHEPD respectively over RIIO-ED2. Additionally, the FTSE all share index has a dividend yield of more than 4% with regulated utilities greater than 5% again highlighting that the dividend yield is understated. As a result, Ofgem's CoE has been set so low that in order to maintain the already too low credit metrics for a Baa1 rating, shareholders will need to invest significantly more than they would ever receive during the RIIO-ED2 period even under Ofgem's assumptions. **In essence, SHEPD and SEPD would need to de-lever even further than the notional gearing that Ofgem has set at 60% over a period when attracting and retaining investment has never been more important. This error presents a real risk to equity investment and the delivery of NetZero. The financeability metrics worsen even further if the costs of borrowing increase due to interest rate rises as set out in the CoD section or in the event of a credit rating downgrade below Baa1.**

Financeability for the minimum Cost of Equity

Our analysis of the AICR and FFO/Net debt ratios under our proposed CoE of 5.9% compared to the range of sensitivities shows we can retain the target credit rating (Baa1). Key credit ratios therefore support Baa1 credit rating over the RIIO-ED2 period while being consistent with market evidence on the cost of equity. It is worth highlighting that net cash to shareholders over this period is still well below the 3% noted by Ofgem with net investments required of (-3.6%) and (-0.7%) for SEPD and SHEPD respectively. This would not satisfy the 1.5x threshold set by Fitch or indeed the threshold set by Ofgem for RIIO-GD2 and T2 particularly when considering the significant capital investment requirements.

Our analysis of financeability under Ofgem's WAs shows that there would be significant downward pressure on our credit metrics and would be below the threshold for Baa2. This is 2 notches below the target credit rating of Baa1 based on the notional company. When including a lower assumption on indexed linked debt our credit ratios worsen significantly for the notional company. This is also the case for the actual company when including the additional costs of borrowing.

Oxera's analysis is consistent with our own financeability assessment whereby in order to secure the target credit rating of Baa1 and sustain a dividend yield of 3% in line with Ofgem's assumptions the Cost of Equity needs to be increased significantly above Ofgem's WAs.

Changes to financial parameters such as capitalisation rates or asset lives have the effect of increasing costs to consumers in the short term in line with our proposals for RIIO-ED2 while exhibiting longer term adverse impacts on customers including significant intergenerational transfers. Additionally, any changes to the notional gearing should be based on market evidence and determined to be a more efficient level of gearing. No evidence has been presented that this is the case over RIIO-ED2 and this is additional evidence in support of the CoE being set to low.

In order to reach this threshold of 1.5x on the AICR and provide adequate equity protections and improve dividend yields, the CoE would need to be 6.3% which is in the middle of the Oxera range.

As stated in this Finance Annex, there is more than sufficient evidence that harm will befall consumers if the CoE is not aimed up within a range. This avoids delayed or cancelled investment by ensuring there is a positive environment for shareholders to invest equity. Therefore, although we have tested our Business Plan on 5.9%, the minimum should be higher than the mid-point on the Oxera range to avoid these risks.

Sensitivity Analysis for Uncertainty Mechanism related Expenditure

As set out in our Business Plan, there is extensive expenditure expected from Uncertainty Mechanisms (UM) during RIIO-ED2 (see Chapter 17 and Annex 17.1). To test the financeability and relative risk of our Business Plan, we have evaluated Ofgem's WA considering an increase in totex expenditure over RIIO-ED2. This is included in Appendix 1 from Table 23 onwards, this shows that in the event of UM expenditure, the credit metrics worsen under Ofgem's WA.

This shows that the AICR worsens further still on the basis of UM expenditure flowing through at a capitalisation rate of 85%⁴⁴. This further illustrates the need to address underlying financeability for a correctly defined notional company. Ofgem must increase the CoE to a level in line with the Oxera range to support financeability with a minimum threshold of 1.5x AICR.

⁴⁴ This is our presumption for UM capitalisation rates in line with T2 for the purposes of modelling. This may need to be altered during the Draft and Final Determinations and we believe further discussion and analysis is required to ensure this capitalisation rate assumption is accurate..

APPENDIX 1 - FINANCEABILITY TABLES

Table 7 - Financeability metrics for the notional company under Ofgem scenarios (interest rates and inflation) for SEPD

	Base case	Interest rate +1%	Interest rate -1%	CPIH +1%	CPIH -1%	Wedge +0.5% due to CPI	Wedge -0.5% due to CPI	Wedge +0.5% due to RPI	Wedge -0.5% due to RPI
Net debt/RAV (%) ¹	62.9%	63.4%	63.0%	62.7%	63.6%	63.2%	63.2%	62.8%	63.0%
FFO interest cover (interest expense) (x)	3.59	3.48	3.68	3.40	3.78	3.69	3.47	3.60	3.59
FFO interest cover (cash interest) (x)	4.10	3.95	4.23	4.11	4.05	4.08	4.08	4.10	4.09
AICR (or PMICR) (x)	1.30	1.31	1.27	1.30	1.28	1.29	1.29	1.30	1.30
Nominal PMICR	2.00	1.97	2.01	2.26	1.69	1.87	2.10	2.02	1.98
FFO (cash interest)/net debt (%)	10.28%	10.32%	10.11%	10.10%	10.35%	10.33%	10.10%	10.30%	10.26%
RCF/net debt (%)	8.37%	8.42%	8.20%	8.18%	8.46%	8.43%	8.20%	8.39%	8.36%
EBITDA/RAV (x)	9.97%	10.19%	9.74%	9.97%	9.96%	9.97%	9.95%	9.98%	9.96%
RORE (%)	4.21%	4.46%	3.97%	4.21%	4.21%	4.21%	4.21%	4.21%	4.21%
Dividend cover (x)	3.80	3.85	3.72	3.73	3.85	3.83	3.74	3.81	3.79
Dividend/regulated equity (%) ²	3.13%	3.13%	3.13%	3.13%	3.13%	3.13%	3.13%	3.13%	3.13%
Net cash to shareholders ³	-1.81%	-2.39%	-1.94%	-1.71%	-2.48%	-2.07%	-2.19%	-1.75%	-1.88%
Required equity buyback/issuance) (£m)	(338)	(399)	(348)	(360)	(373)	(354)	(388)	(336)	(340)

Note: ¹ Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. Ofgem also measures gearing using closing values, whilst equity issuance takes place at the beginning of each year. ² Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. ³ Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem's model.

Table 8 - Financeability metrics for the notional company under Ofgem scenarios (interest rates and inflation) for SHEPD

	Base case	Interest rate +1%	Interest rate -1%	CPIH +1%	CPIH -1%	Wedge +0.5% due to CPI	Wedge -0.5% due to CPI	Wedge +0.5% due to RPI	Wedge -0.5% due to RPI
Net debt/RAV (%) ¹	64.2%	64.1%	64.4%	63.5%	65.0%	64.5%	64.0%	64.2%	64.3%
FFO interest cover (interest expense) (x)	3.45	3.38	3.52	3.29	3.63	3.54	3.36	3.45	3.44
FFO interest cover (cash interest) (x)	3.93	3.84	4.05	3.98	3.89	3.92	3.95	3.94	3.93
AICR (or PMICR) (x)	1.29	1.31	1.26	1.30	1.27	1.28	1.29	1.29	1.28
Nominal PMICR	1.99	1.98	2.00	2.26	1.68	1.86	2.11	2.01	1.97
FFO (cash interest)/net debt (%)	9.62%	9.78%	9.45%	9.53%	9.70%	9.68%	9.56%	9.63%	9.60%
RCF/net debt (%)	7.74%	7.90%	7.59%	7.64%	7.85%	7.81%	7.68%	7.76%	7.73%
EBITDA/RAV (x)	8.96%	9.19%	8.74%	8.96%	8.97%	8.97%	8.95%	8.97%	8.96%
RORE (%)	4.22%	4.47%	3.98%	4.22%	4.22%	4.22%	4.22%	4.22%	4.22%
Dividend cover (x)	3.45	3.53	3.38	3.40	3.51	3.49	3.42	3.47	3.44
Dividend/regulated equity (%) ²	3.18%	3.18%	3.18%	3.18%	3.18%	3.18%	3.18%	3.18%	3.18%
Net cash to shareholders ³	-4.27%	-4.17%	-4.38%	-3.71%	-4.87%	-4.51%	-4.04%	-4.22%	-4.33%
Required equity buyback/issuance) (£m)	(291)	(286)	(296)	(279)	(303)	(297)	(285)	(291)	(291)

Note: ¹ Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. Ofgem also measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. ² Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. ³ Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem's model.

Table 9 - Financeability metrics for the notional company under Ofgem scenarios (TOTEX performance and RORE) for SEPD

	Base case	TOTEX performance +10%	TOTEX performance -10%	RORE +2%	RORE -2%
Net debt/RAV (%) ¹	62.9%	61.6%	63.8%	62.4%	64.1%
FFO interest cover (interest expense) (x)	3.59	3.79	3.42	3.95	3.27
FFO interest cover (cash interest) (x)	4.10	4.32	3.91	4.50	3.74
AICR (or PMICR) (x)	1.30	1.46	1.15	1.70	0.98
Nominal PMICR	2.00	2.15	1.87	2.35	1.70
FFO (cash interest)/net debt (%)	10.28%	11.18%	9.52%	11.77%	8.99%
RCF/net debt (%)	8.37%	9.23%	7.64%	9.85%	7.12%
EBITDA/RAV (x)	9.97%	10.47%	9.49%	11.10%	9.07%
RORE (%)	4.21%	5.02%	3.42%	6.46%	2.46%
Dividend cover (x)	3.80	4.18	3.44	4.52	3.21
Dividend/ regulated equity (%) ²	3.13%	3.12%	3.14%	3.13%	3.13%
Net cash to shareholders ³	-1.81%	0.71%	-4.74%	0.72%	-2.77%
Required equity buyback/ (issuance) (£m)	(338)	(145)	(570)	(145)	(411)

Note: ¹ Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. Ofgem also measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. ² Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. ³ Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem's model.

Table 10 - Financeability metrics for the notional company under Ofgem scenarios (TOTEX performance and RORE) for SHEPD

	Base case	TOTEX performance +10%	TOTEX performance -10%	RORE +2%	RORE -2%
Net debt/RAV (%) ¹	64.2%	62.1%	65.2%	62.7%	64.5%
FFO interest cover (interest expense) (x)	3.45	3.69	3.27	3.86	3.18
FFO interest cover (cash interest) (x)	3.93	4.22	3.73	4.40	3.62
AICR (or PMICR) (x)	1.29	1.47	1.13	1.71	0.98
Nominal PMICR	1.99	2.17	1.85	2.37	1.72
FFO (cash interest)/net debt (%)	9.62%	10.69%	8.81%	11.26%	8.52%
RCF/net debt (%)	7.74%	8.75%	6.96%	9.34%	6.65%
EBITDA/RAV (x)	8.96%	9.58%	8.44%	10.10%	8.17%
RORE (%)	4.22%	5.10%	3.37%	6.47%	2.47%
Dividend cover (x)	3.45	3.88	3.08	4.20	2.91
Dividend/regulated equity (%) ²	3.18%	3.17%	3.19%	3.18%	3.18%
Net cash to shareholders ³	-4.27%	-2.32%	-6.44%	-3.19%	-5.36%
Required equity buyback/(issuance) (£m)	(291)	(202)	(375)	(244)	(324)

Note: ¹ Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. Ofgem also measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. ² Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. ³ Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem's model.

Table 11 - Financeability metrics for the notional company under Ofgem scenarios (index-linked debt) for SEPD

	Base case (25% inflation-linked debt)	Inflation-linked debt +5%	Inflation-linked debt -5%
Net debt/RAV (%) ¹	62.9%	62.9%	62.9%
FFO interest cover (interest expense) (x)	3.59	3.59	3.59
FFO interest cover (cash interest) (x)	4.10	4.22	3.99
AICR (or PMICR) (x)	1.30	1.34	1.27
Nominal PMICR	2.00	2.00	2.00
FFO (cash interest)/net debt (%)	10.28%	10.28%	10.29%
RCF/net debt (%)	8.37%	8.37%	8.38%
EBITDA/RAV (x)	9.97%	9.97%	9.97%
RORE (%)	4.21%	4.21%	4.21%
Dividend cover (x)	3.80	3.80	3.80
Dividend/regulated equity (%) ²	3.13%	3.13%	3.13%
Net cash to shareholders ³	-1.81%	-1.82%	-1.81%
Required equity buyback/(issuance) (£m)	(338)	(339)	(338)

Note: ¹ Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. Ofgem also measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. ² Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. ³ Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem's model.

Table 12 - Financeability metrics for the notional company under Ofgem scenarios (index-linked debt) for SHEPD

	Base case (25% inflation-linked debt)	Inflation-linked debt +5%	Inflation-linked debt -5%
Net debt/RAV (%) ¹	64.2%	64.2%	64.2%
FFO interest cover (interest expense) (x)	3.45	3.44	3.45
FFO interest cover (cash interest) (x)	3.93	4.05	3.83
AICR (or PMICR) (x)	1.29	1.32	1.25
Nominal PMICR	1.99	1.99	1.99
FFO (cash interest)/net debt (%)	9.62%	9.61%	9.62%
RCF/net debt (%)	7.74%	7.74%	7.75%
EBITDA/RAV (x)	8.96%	8.96%	8.96%
RORE (%)	4.22%	4.22%	4.22%
Dividend cover (x)	3.45	3.45	3.46
Dividend/regulated equity (%) ²	3.18%	3.18%	3.18%
Net cash to shareholders ³	-4.27%	-4.28%	-4.27%
Required equity buyback/(issuance) (£m)	(291)	(291)	(291)

Note: ¹ Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. Ofgem also measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. ² Ofgem's

construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%.³ Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem's model.

Table 13 - Additional sensitivity analysis for the notional company (SEPD)

	10% inflation-linked debt	CoD at October 2021	0% equity issuance threshold
Net debt/RAV (%) ¹	62.9%	62.9%	61.7%
FFO interest cover (interest expense) (x)	3.60	3.55	3.66
FFO interest cover (cash interest) (x)	3.79	4.04	4.18
AICR (or PMICR) (x)	1.20	1.29	1.33
Nominal PMICR	2.00	1.98	2.04
FFO (cash interest)/net debt (%)	10.30%	10.28%	10.55%
RCF/net debt (%)	8.39%	8.37%	8.60%
EBITDA/RAV (x)	9.97%	10.00%	9.99%
RORE (%)	4.21%	4.21%	4.21%
Dividend cover (x)	3.80	3.80	3.84
Dividend/ regulated equity (%) ²	3.13%	3.13%	3.13%
Net cash to shareholders ³	-1.80%	-1.82%	-2.70%
Required equity buyback/ (issuance) (£m)	(337)	(338)	(398)

Note: ¹ Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. We also model a 0% equity issuance threshold, but gearing still exceeds 60%. This is because Ofgem measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. ² Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. ³ Computed as (dividends – equity issuance)/regulated equity.

Table 14 - Additional sensitivity analysis for the notional company (SHEPD)

	10% inflation-linked debt	CoD at October 2021	0% equity issuance threshold
Net debt/RAV (%) ¹	64.2%	64.2%	62.9%
FFO interest cover (interest expense) (x)	3.45	3.41	3.52
FFO interest cover (cash interest) (x)	3.63	3.88	4.01
AICR (or PMICR) (x)	1.19	1.28	1.31
Nominal PMICR	1.99	1.97	2.03
FFO (cash interest)/net debt (%)	9.63%	9.61%	9.87%
RCF/net debt (%)	7.76%	7.74%	7.96%
EBITDA/RAV (x)	8.96%	9.00%	8.99%
RORE (%)	4.22%	4.22%	4.22%
Dividend cover (x)	3.46	3.45	3.50
Dividend/ regulated equity (%) ²	3.18%	3.18%	3.18%
Net cash to shareholders ³	-4.27%	-4.28%	-5.43%
Required equity buyback/ (issuance) (£m)	(291)	(291)	(329)

Note: ¹ Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. We also model a 0% equity issuance threshold, but gearing still exceeds 60%. This is because Ofgem measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. ² Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. ³ Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem's model.

Actual Company

Table 15 - SEPD: actual company

	Base case	Interest rate +1%	Interest rate -1%	CPIH +1%	CPIH -1%	Wedge +0.5% due to CPIH	Wedge -0.5% due to CPIH	Wedge +0.5% due to RPI	Wedge -0.5% due to RPI	TOTEX performance +10%	TOTEX performance -10%	RORE +2%	RORE -2%
Net debt/RAV (%) ¹	62.9%	63.4%	63.0%	62.7%	63.6%	63.2%	63.2%	62.8%	62.9%	61.6%	63.8%	62.3%	64.1%
FFO interest cover (interest expense) (x)	4.24	3.90	4.61	3.96	4.53	4.38	4.06	4.24	4.23	4.48	4.03	4.68	3.85
FFO interest cover (cash interest) (x)	5.01	4.53	5.59	5.03	4.95	4.99	4.98	5.01	5.00	5.29	4.76	5.53	4.55
AICR (or PMICR) (x)	1.40	1.38	1.41	1.41	1.39	1.40	1.40	1.41	1.40	1.61	1.22	1.92	0.99
Nominal PMICR	2.26	2.15	2.38	2.55	1.89	2.11	2.37	2.28	2.23	2.44	2.09	2.70	1.89
FFO (cash interest)/net debt (%)	10.31%	10.34%	10.15%	10.13%	10.39%	10.37%	10.13%	10.33%	10.29%	11.19%	9.55%	11.80%	9.03%
RCF/net debt (%)	8.40%	8.45%	8.24%	8.21%	8.50%	8.47%	8.23%	8.42%	8.39%	9.24%	7.67%	9.88%	7.16%
EBITDA/RAV (x)	9.52%	9.86%	9.18%	9.52%	9.52%	9.53%	9.51%	9.53%	9.51%	10.02%	9.04%	10.66%	8.62%
RORE (%)	4.21%	4.46%	3.97%	4.21%	4.21%	4.21%	4.21%	4.21%	4.21%	5.02%	3.43%	6.46%	2.46%
Dividend cover (x)	3.81	3.87	3.74	3.74	3.87	3.85	3.76	3.82	3.80	4.19	3.46	4.54	3.23
Dividend/regulated equity (%) ²	3.12%	3.13%	3.12%	3.12%	3.12%	3.12%	3.12%	3.12%	3.12%	3.11%	3.13%	3.12%	3.12%
Net cash to shareholders ³	-1.78%	-2.35%	-1.89%	-1.68%	-2.43%	-2.03%	-2.14%	-1.72%	-1.85%	0.71%	-4.69%	0.72%	-2.72%
Required equity buyback/(issuance) (£m)	(336)	(396)	(345)	(357)	(370)	(351)	(385)	(334)	(338)	(145)	(567)	(145)	(408)

Note: ¹ Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. Ofgem also measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. ² Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. ³ Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem's model.

Table 16 - SHEPD: actual company

	Base case	Interest rate +1%	Interest rate -1%	CPIH +1%	CPIH -1%	Wedge +0.5% due to CPIH	Wedge -0.5% due to CPIH	Wedge +0.5% due to RPI	Wedge -0.5% due to RPI	TOTEX performance +10%	TOTEX performance -10%	RORE +2%	RORE -2%
Net debt/RAV (%) ¹	64.2%	64.0%	64.3%	63.5%	64.9%	64.4%	63.9%	64.1%	64.2%	62.0%	65.2%	62.7%	64.5%
FFO interest cover (interest expense) (x)	5.11	4.41	6.23	4.70	5.61	5.35	4.89	5.12	5.10	5.50	4.82	5.77	4.67
FFO interest cover (cash interest) (x)	6.43	5.30	8.45	6.50	6.35	6.40	6.46	6.44	6.42	6.92	6.06	7.26	5.87
AICR (or PMICR) (x)	1.57	1.49	1.72	1.59	1.55	1.57	1.58	1.58	1.57	1.90	1.30	2.32	1.02
Nominal PMICR	2.67	2.41	3.10	3.04	2.23	2.50	2.83	2.71	2.64	2.96	2.45	3.29	2.23
FFO (cash interest)/net debt (%)	9.70%	9.84%	9.56%	9.59%	9.80%	9.76%	9.63%	9.71%	9.68%	10.73%	8.89%	11.32%	8.59%
RCF/net debt (%)	7.82%	7.96%	7.69%	7.70%	7.94%	7.90%	7.75%	7.83%	7.81%	8.79%	7.05%	9.40%	6.73%
EBITDA/RAV (x)	8.09%	8.52%	7.66%	8.08%	8.10%	8.10%	8.08%	8.10%	8.08%	8.69%	7.57%	9.22%	7.29%
RORE (%)	4.22%	4.47%	3.98%	4.22%	4.22%	4.22%	4.22%	4.22%	4.22%	5.10%	3.38%	6.47%	2.47%
Dividend cover (x)	3.49	3.56	3.43	3.43	3.55	3.53	3.45	3.50	3.48	3.90	3.12	4.23	2.94
Dividend/regulated equity (%) ²	3.16%	3.17%	3.16%	3.16%	3.16%	3.16%	3.16%	3.16%	3.16%	3.16%	3.17%	3.16%	3.16%
Net cash to shareholders ³	-4.18%	-4.10%	-4.25%	-3.63%	-4.75%	-4.40%	-3.95%	-4.12%	-4.23%	-2.28%	-6.32%	-3.11%	-5.26%
Required equity buyback/ (issuance) (£m)	(288)	(284)	(291)	(276)	(299)	(293)	(282)	(288)	(287)	(200)	(372)	(241)	(322)

Note: ¹ Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. Ofgem also measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. ² Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. ³ Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem's model.

Table 17 - SEPD: notional company with 4.65% CoE

	Base case	10% inflation-linked debt	Interest rate +1%	Interest rate -1%	CPIH +1%	CPIH -1%	Wedge +0.5% due to CPIH	Wedge -0.5% due to CPIH	Wedge +0.5% due to RPI	Wedge -0.5% due to RPI	TOTEX performance +10%	TOTEX performance -10%	RORE +2%	RORE -2%	Inflation-linked debt +5%	Inflation-linked debt -5%
Net debt/RAV (%) ¹	63.4%	63.4%	63.2%	62.9%	63.4%	63.5%	63.0%	63.0%	63.3%	62.8%	61.3%	63.7%	62.4%	64.1%	63.4%	63.4%
FFO interest cover (interest expense) (x)	3.60	3.61	3.52	3.73	3.39	3.83	3.73	3.51	3.61	3.63	3.84	3.47	3.95	3.27	3.60	3.60
FFO interest cover (cash interest) (x)	4.11	3.80	4.00	4.29	4.11	4.10	4.13	4.13	4.12	4.15	4.38	3.96	4.50	3.74	4.23	4.00
AICR (or PMICR) (x)	1.33	1.23	1.35	1.32	1.33	1.33	1.34	1.34	1.34	1.35	1.51	1.20	1.70	0.98	1.37	1.30
Nominal PMICR	2.02	2.03	2.01	2.05	2.26	1.73	1.91	2.14	2.04	2.02	2.19	1.91	2.35	1.70	2.02	2.02
FFO (cash interest)/net debt (%)	10.33%	10.35%	10.51%	10.30%	10.11%	10.54%	10.52%	10.29%	10.36%	10.45%	11.40%	9.69%	11.77%	8.99%	10.33%	10.34%
RCF/net debt (%)	8.44%	8.45%	8.61%	8.39%	8.21%	8.64%	8.62%	8.38%	8.46%	8.54%	9.44%	7.81%	9.85%	7.12%	8.43%	8.44%
EBITDA/RAV (x)	10.09%	10.09%	10.32%	9.87%	10.07%	10.09%	10.10%	10.08%	10.10%	10.09%	10.60%	9.61%	11.10%	9.07%	10.09%	10.09%
RORE (%)	4.46%	4.46%	4.71%	4.22%	4.46%	4.46%	4.46%	4.46%	4.46%	4.46%	5.27%	3.67%	6.46%	2.46%	4.46%	4.46%
Dividend cover (x)	3.86	3.87	3.94	3.81	3.79	3.93	3.92	3.83	3.87	3.87	4.27	3.52	4.52	3.21	3.86	3.86
Dividend/regulated equity (%) ²	3.13%	3.13%	3.13%	3.13%	3.13%	3.13%	3.13%	3.13%	3.13%	3.13%	3.12%	3.14%	3.13%	3.13%	3.13%	3.13%
Net cash to shareholders ³	-2.37%	-2.36%	-2.21%	-1.80%	0.75%	-2.34%	-1.94%	-2.01%	-2.30%	-1.75%	0.71%	-4.56%	0.72%	-2.77%	-2.37%	-2.36%
Required equity buyback/issuance (£m)	(397)	(396)	(384)	(337)	(146)	(363)	(344)	(373)	(395)	(330)	(145)	(556)	(145)	(411)	(397)	(397)

Note: ¹ Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. Ofgem also measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. ² Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. ³ Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem's model.

Table 18 - SEPD: actual company with 4.65% CoE

	Base case	Interest rate +1%	Interest rate -1%	CPIH +1%	CPIH -1%	Wedge +0.5% due to CPIH	Wedge -0.5% due to CPIH	Wedge +0.5% due to RPI	Wedge -0.5% due to RPI	TOTEX performance +10%	TOTEX performance -10%	RORE +2%	RORE -2%
Net debt/RAV (%) ¹	63.3%	63.2%	62.8%	63.4%	63.4%	63.0%	63.0%	63.2%	62.8%	61.3%	63.7%	62.3%	64.1%
FFO interest cover (interest expense) (x)	4.25	3.96	4.68	3.96	4.59	4.44	4.12	4.26	4.29	4.54	4.08	4.68	3.85
FFO interest cover (cash interest) (x)	5.03	4.59	5.66	5.03	5.01	5.05	5.05	5.03	5.07	5.37	4.83	5.53	4.55
AICR (or PMICR) (x)	1.45	1.44	1.48	1.45	1.45	1.46	1.46	1.45	1.46	1.67	1.27	1.92	0.99
Nominal PMICR	2.29	2.19	2.43	2.57	1.95	2.16	2.43	2.32	2.28	2.50	2.14	2.70	1.89
FFO (cash interest)/net debt (%)	10.37%	10.54%	10.33%	10.14%	10.58%	10.55%	10.32%	10.39%	10.48%	11.41%	9.73%	11.80%	9.03%
RCF/net debt (%)	8.47%	8.64%	8.42%	8.25%	8.68%	8.65%	8.42%	8.49%	8.57%	9.45%	7.84%	9.88%	7.16%
EBITDA/RAV (x)	9.65%	9.98%	9.31%	9.62%	9.65%	9.66%	9.64%	9.66%	9.64%	10.15%	9.17%	10.66%	8.62%
RORE (%)	4.46%	4.71%	4.22%	4.46%	4.46%	4.46%	4.46%	4.46%	4.46%	5.27%	3.68%	6.46%	2.46%
Dividend cover (x)	3.88	3.95	3.82	3.80	3.95	3.93	3.84	3.89	3.88	4.27	3.54	4.54	3.23
Dividend/regulated equity (%) ²	3.12%	3.13%	3.12%	3.12%	3.12%	3.12%	3.12%	3.12%	3.12%	3.11%	3.13%	3.12%	3.12%
Net cash to shareholders ³	-2.32%	-2.17%	-1.76%	0.75%	-2.29%	-1.90%	-1.97%	-2.25%	-1.71%	0.71%	-4.50%	0.72%	-2.72%
Required equity buyback/ (issuance) (£m)	(393)	(381)	(335)	(146)	(360)	(341)	(370)	(392)	(328)	(145)	(553)	(145)	(408)

Note: ¹ Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. Ofgem also measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. ² Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. ³ Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem's model.

Table 19 - SEPD: actual company assuming 20bps of transaction costs

	Base case	Interest rate +1%	Interest rate -1%	CPIH +1%	CPIH -1%	Wedge +0.5% due to CPI	Wedge -0.5% due to CPI	Wedge +0.5% due to RPI	Wedge -0.5% due to RPI	TOTEX performance +10%	TOTEX performance -10%	RORE +2%	RORE -2%
Net debt/RAV (%) ¹	62.9%	63.4%	63.0%	62.7%	63.6%	63.2%	63.2%	62.8%	62.9%	61.6%	63.8%	62.3%	64.1%
FFO interest cover (interest expense) (x)	4.05	3.75	4.37	3.79	4.30	4.17	3.89	4.05	4.04	4.27	3.85	4.47	3.68
FFO interest cover (cash interest) (x)	4.73	4.31	5.23	4.75	4.68	4.71	4.71	4.74	4.73	5.00	4.50	5.22	4.30
AICR (or PMICR) (x)	1.37	1.36	1.38	1.38	1.36	1.37	1.36	1.37	1.37	1.56	1.20	1.85	0.99
Nominal PMICR	2.18	2.08	2.28	2.47	1.83	2.04	2.29	2.21	2.16	2.35	2.03	2.60	1.84
FFO (cash interest)/net debt (%)	10.30%	10.33%	10.14%	10.12%	10.38%	10.36%	10.12%	10.32%	10.29%	11.19%	9.54%	11.79%	9.02%
RCF/net debt (%)	8.39%	8.44%	8.24%	8.20%	8.49%	8.46%	8.22%	8.41%	8.38%	9.24%	7.66%	9.87%	7.15%
EBITDA/RAV (x)	9.63%	9.97%	9.29%	9.63%	9.63%	9.64%	9.62%	9.64%	9.62%	10.13%	9.15%	10.77%	8.73%
RORE (%)	4.21%	4.46%	3.97%	4.21%	4.21%	4.21%	4.21%	4.21%	4.21%	5.02%	3.43%	6.46%	2.46%
Dividend cover (x)	3.81	3.86	3.74	3.74	3.86	3.85	3.75	3.82	3.80	4.18	3.45	4.53	3.22
Dividend/regulated equity (%) ²	3.12%	3.13%	3.12%	3.12%	3.12%	3.12%	3.12%	3.12%	3.12%	3.12%	3.13%	3.12%	3.12%
Net cash to shareholders ³	-1.79%	-2.36%	-1.90%	-1.69%	-2.44%	-2.04%	-2.15%	-1.72%	-1.86%	0.71%	-4.70%	0.72%	-2.73%
Required equity buyback/(issuance) (£m)	(337)	(397)	(346)	(358)	(371)	(352)	(386)	(334)	(339)	(145)	(568)	(145)	(409)

Note: ¹ Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. Ofgem also measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. ² Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. ³ Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem's model.

Financeability metrics for the notional and the actual company under different assumptions (SHEPD)

Table 20 - SHEPD: notional company with 4.65% CoE

	Base case	10% inflation-linked debt	Interest rate +1%	Interest rate -1%	CPIH +1%	CPIH -1%	Wedge +0.5% due to CPIH	Wedge -0.5% due to CPIH	Wedge +0.5% due to RPI	Wedge -0.5% due to RPI	TOTEX performance +10%	TOTEX performance -10%	RORE +2%	RORE -2%	Inflation-linked debt +5%	Inflation-linked debt -5%
Net debt/RAV (%) ¹	64.1%	64.1%	63.9%	64.2%	63.4%	64.8%	64.3%	63.8%	64.0%	64.1%	61.9%	65.1%	62.7%	64.5%	64.1%	64.1%
FFO interest cover (interest expense) (x)	3.49	3.50	3.42	3.57	3.33	3.67	3.58	3.40	3.50	3.49	3.74	3.31	3.86	3.18	3.49	3.49
FFO interest cover (cash interest) (x)	3.99	3.68	3.88	4.10	4.03	3.94	3.97	4.00	3.99	3.98	4.27	3.78	4.40	3.62	4.10	3.88
AICR (or PMICR) (x)	1.33	1.23	1.35	1.31	1.35	1.32	1.33	1.34	1.33	1.33	1.52	1.18	1.71	0.98	1.37	1.30
Nominal PMICR	2.03	2.03	2.02	2.04	2.30	1.72	1.90	2.15	2.05	2.01	2.22	1.89	2.37	1.72	2.03	2.03
FFO (cash interest)/net debt (%)	9.79%	9.81%	9.96%	9.63%	9.71%	9.88%	9.85%	9.74%	9.81%	9.78%	10.88%	8.97%	11.26%	8.52%	9.79%	9.80%
RCF/net debt (%)	7.92%	7.93%	8.08%	7.76%	7.81%	8.02%	7.98%	7.85%	7.93%	7.90%	8.93%	7.13%	9.34%	6.65%	7.91%	7.92%
EBITDA/RAV (x)	9.09%	9.09%	9.31%	8.87%	9.08%	9.09%	9.10%	9.08%	9.09%	9.08%	9.70%	8.55%	10.10%	8.17%	9.09%	9.09%
RORE (%)	4.47%	4.47%	4.72%	4.23%	4.47%	4.47%	4.47%	4.47%	4.47%	4.47%	5.35%	3.62%	6.47%	2.47%	4.47%	4.47%
Dividend cover (x)	3.54	3.54	3.61	3.46	3.49	3.59	3.57	3.50	3.55	3.53	3.97	3.16	4.20	2.91	3.54	3.54
Dividend/regulated equity (%) ²	3.18%	3.18%	3.18%	3.18%	3.18%	3.18%	3.18%	3.18%	3.18%	3.18%	3.17%	3.19%	3.18%	3.18%	3.18%	3.18%
Net cash to shareholders ³	-4.15%	-4.14%	-4.05%	-4.26%	-3.59%	-4.75%	-4.39%	-3.92%	-4.09%	-4.21%	-2.20%	-6.31%	-3.19%	-5.36%	-4.16%	-4.15%
Required equity buyback/issuance) (£m)	(286)	(285)	(281)	(290)	(273)	(298)	(292)	(280)	(286)	(286)	(197)	(370)	(244)	(324)	(286)	(286)

Note: ¹ Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. Ofgem also measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. ² Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. ³ Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem's model.

Table 21 - SHEPD: actual company with 4.65% CoE

	Base case	Interest rate +1%	Interest rate -1%	CPIH +1%	CPIH -1%	Wedge +0.5% due to CPIH	Wedge -0.5% due to CPIH	Wedge +0.5% due to RPI	Wedge -0.5% due to RPI	TOTEX performance +10%	TOTEX performance -10%	RORE +2%	RORE -2%
Net debt/RAV (%) ¹	64.0%	63.9%	64.1%	63.3%	64.7%	64.3%	63.7%	63.9%	64.1%	61.9%	65.1%	62.7%	64.5%
FFO interest cover (interest expense) (x)	5.18	4.47	6.32	4.77	5.69	5.43	4.96	5.19	5.18	5.58	4.89	5.77	4.67
FFO interest cover (cash interest) (x)	6.52	5.38	8.58	6.60	6.44	6.49	6.55	6.53	6.51	7.01	6.15	7.26	5.87
AICR (or PMICR) (x)	1.66	1.56	1.84	1.68	1.64	1.65	1.66	1.66	1.65	1.98	1.38	2.32	1.02
Nominal PMICR	2.74	2.46	3.19	3.10	2.30	2.57	2.90	2.78	2.71	3.03	2.51	3.29	2.23
FFO (cash interest)/net debt (%)	9.87%	10.01%	9.73%	9.77%	9.97%	9.94%	9.81%	9.89%	9.86%	10.91%	9.06%	11.32%	8.59%
RCF/net debt (%)	7.99%	8.13%	7.86%	7.87%	8.11%	8.07%	7.92%	8.01%	7.98%	8.97%	7.22%	9.40%	6.73%
EBITDA/RAV (x)	8.22%	8.65%	7.78%	8.21%	8.23%	8.23%	8.20%	8.22%	8.21%	8.82%	7.67%	9.22%	7.29%
RORE (%)	4.47%	4.72%	4.23%	4.47%	4.47%	4.47%	4.47%	4.47%	4.47%	5.35%	3.63%	6.47%	2.47%
Dividend cover (x)	3.57	3.64	3.51	3.51	3.63	3.61	3.53	3.58	3.56	3.98	3.20	4.23	2.94
Dividend/regulated equity (%) ²	3.16%	3.17%	3.16%	3.16%	3.16%	3.16%	3.16%	3.16%	3.16%	3.16%	3.17%	3.16%	3.16%
Net cash to shareholders ³	-4.06%	-3.98%	-4.13%	-3.51%	-4.63%	-4.28%	-3.84%	-4.00%	-4.11%	-2.16%	-6.20%	-3.11%	-5.26%
Required equity buyback/ (issuance) (£m)	(282)	(279)	(286)	(270)	(294)	(288)	(276)	(282)	(282)	(195)	(367)	(241)	(322)

Note: ¹ Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. Ofgem also measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. ² Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. ³ Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem's model.

Table 22 - SHEPD: actual company assuming 20bps of transaction costs

	Base case	Interest rate +1%	Interest rate -1%	CPIH +1%	CPIH -1%	Wedge +0.5% due to CPIH	Wedge -0.5% due to CPIH	Wedge +0.5% due to RPI	Wedge -0.5% due to RPI	TOTEX performance +10%	TOTEX performance -10%	RORE +2%	RORE -2%
Net debt/RAV (%) ¹	64.2%	64.0%	64.3%	63.5%	64.9%	64.5%	63.9%	64.1%	64.3%	62.0%	65.2%	62.7%	64.5%
FFO interest cover (interest expense) (x)	4.80	4.19	5.73	4.45	5.22	5.01	4.61	4.80	4.79	5.16	4.53	5.41	4.39
FFO interest cover (cash interest) (x)	5.92	4.98	7.52	5.99	5.85	5.89	5.94	5.93	5.91	6.37	5.58	6.67	5.41
AICR (or PMICR) (x)	1.51	1.45	1.62	1.53	1.50	1.51	1.52	1.52	1.51	1.81	1.26	2.20	1.01
Nominal PMICR	2.54	2.32	2.89	2.90	2.12	2.38	2.69	2.58	2.51	2.81	2.33	3.12	2.14
FFO (cash interest)/net debt (%)	9.68%	9.83%	9.55%	9.58%	9.79%	9.75%	9.62%	9.70%	9.67%	10.72%	8.88%	11.31%	8.58%
RCF/net debt (%)	7.81%	7.95%	7.68%	7.69%	7.93%	7.88%	7.74%	7.82%	7.80%	8.78%	7.04%	9.39%	6.72%
EBITDA/RAV (x)	8.20%	8.63%	7.77%	8.19%	8.21%	8.21%	8.19%	8.21%	8.19%	8.81%	7.68%	9.34%	7.40%
RORE (%)	4.22%	4.47%	3.98%	4.22%	4.22%	4.22%	4.22%	4.22%	4.22%	5.10%	3.38%	6.47%	2.47%
Dividend cover (x)	3.49	3.55	3.42	3.43	3.55	3.53	3.45	3.50	3.48	3.90	3.11	4.22	2.94
Dividend/ regulated equity (%) ²	3.17%	3.17%	3.16%	3.17%	3.17%	3.17%	3.17%	3.17%	3.17%	3.16%	3.18%	3.17%	3.17%
Net cash to shareholders ³	-4.19%	-4.11%	-4.26%	-3.64%	-4.77%	-4.42%	-3.97%	-4.13%	-4.24%	-2.28%	-6.34%	-3.12%	-5.27%
Required equity buyback/ (issuance) (£m)	(288)	(284)	(292)	(276)	(299)	(294)	(282)	(288)	(288)	(201)	(372)	(241)	(322)

Note: ¹ Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. Ofgem also measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. ² Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. ³ Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem's model.

Table 23 – SEPD, Notional Company, UM Scenario

	Base case	10% inflation-linked debt and zero outperformance	Interest rate +1%	Interest rate -1%	CPIH +1%	CPIH -1%	Wedge +0.5% due to CPIH	Wedge -0.5% due to CPIH	Wedge +0.5% due to RPI	Wedge -0.5% due to RPI	TOTEX performance +10%	TOTEX performance -10%	RORE +2%	RORE -2%	Inflation-linked debt +5%	Inflation-linked debt -5%
Net debt/RAV (%) ¹	64.1%	64.3%	64.0%	64.3%	63.4%	63.9%	64.4%	63.8%	64.0%	64.2%	63.2%	65.0%	63.4%	64.4%	64.1%	64.1%
FFO interest cover (interest expense) (x)	3.50	3.46	3.42	3.58	3.34	3.73	3.59	3.41	3.50	3.49	3.67	3.33	3.83	3.19	3.50	3.50
FFO interest cover (cash interest) (x)	3.99	3.64	3.88	4.12	4.04	4.00	3.98	4.01	4.00	3.99	4.19	3.81	4.37	3.65	4.11	3.89
AICR (or PMICR) (x)	1.33	1.18	1.35	1.30	1.34	1.33	1.32	1.33	1.33	1.33	1.48	1.18	1.69	0.98	1.36	1.29
Nominal PMICR	2.02	1.98	2.01	2.03	2.29	1.74	1.89	2.14	2.04	2.00	2.15	1.89	2.34	1.71	2.02	2.02
FFO (cash interest)/net debt (%)	9.78%	9.61%	9.94%	9.61%	9.70%	10.04%	9.83%	9.72%	9.79%	9.76%	10.58%	9.03%	11.12%	8.55%	9.77%	9.78%
RCF/net debt (%)	7.90%	7.74%	8.06%	7.75%	7.80%	8.16%	7.97%	7.84%	7.92%	7.89%	8.68%	7.19%	9.22%	6.68%	7.90%	7.91%
EBITDA/RAV (x)	9.64%	9.52%	9.87%	9.42%	9.64%	9.66%	9.65%	9.63%	9.65%	9.63%	10.16%	9.15%	10.66%	8.65%	9.64%	9.64%
RORE (%)	4.47%	4.22%	4.71%	4.23%	4.47%	4.47%	4.47%	4.47%	4.47%	4.47%	5.30%	3.66%	6.47%	2.47%	4.47%	4.47%
Dividend cover (x)	3.62	3.54	3.69	3.54	3.57	3.70	3.66	3.58	3.63	3.61	4.00	3.26	4.26	2.99	3.62	3.62
Dividend/regulated equity (%) ²	3.16%	3.16%	3.17%	3.16%	3.16%	3.16%	3.16%	3.16%	3.16%	3.16%	3.15%	3.17%	3.16%	3.16%	3.16%	3.16%
Net cash to shareholders ³	-2.59%	-2.71%	-2.48%	-2.71%	-1.98%	-4.70%	-2.85%	-2.35%	-2.53%	-2.66%	0.76%	-6.07%	-2.24%	-5.27%	-2.60%	-2.59%
Required equity buyback/ (issuance) (£m)	(421)	(430)	(411)	(430)	(386)	(570)	(436)	(405)	(419)	(422)	(145)	(721)	(417)	(644)	(421)	(420)

Note: ¹ Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. Ofgem also measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. ² Ofgem’s construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. ³ Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem’s model.

Table 24 - SHEPD: Notional Company, UM Scenario

	Base case	10% inflation-linked debt and zero outperformance	Interest rate +1%	Interest rate -1%	CPIH +1%	CPIH -1%	Wedge +0.5% due to CPIH	Wedge -0.5% due to CPIH	Wedge +0.5% due to RPI	Wedge -0.5% due to RPI	TOTEX performance +10%	TOTEX performance -10%	RORE +2%	RORE -2%	Inflation-linked debt +5%	Inflation-linked debt -5%
Net debt/RAV (%) ¹	65.5%	65.6%	65.4%	65.6%	65.0%	66.0%	65.7%	65.3%	65.4%	65.5%	64.0%	67.4%	65.1%	66.5%	65.5%	65.5%
FFO interest cover (interest expense) (x)	3.33	3.29	3.27	3.40	3.17	3.51	3.42	3.24	3.33	3.32	3.54	3.11	3.64	2.99	3.33	3.33
FFO interest cover (cash interest) (x)	3.80	3.46	3.71	3.90	3.83	3.77	3.79	3.81	3.80	3.79	4.04	3.55	4.15	3.41	3.90	3.70
AICR (or PMICR) (x)	1.32	1.17	1.34	1.30	1.33	1.31	1.31	1.32	1.32	1.32	1.50	1.14	1.66	0.96	1.35	1.28
Nominal PMICR	2.02	1.99	2.01	2.04	2.29	1.72	1.89	2.14	2.04	2.00	2.19	1.85	2.33	1.70	2.02	2.02
FFO (cash interest)/net debt (%)	8.92%	8.77%	9.07%	8.77%	8.80%	9.04%	8.99%	8.85%	8.93%	8.91%	9.86%	8.00%	10.14%	7.62%	8.91%	8.92%
RCF/net debt (%)	7.08%	6.94%	7.23%	6.94%	6.95%	7.22%	7.16%	7.01%	7.10%	7.07%	7.98%	6.21%	8.29%	5.82%	7.08%	7.09%
EBITDA/RAV (x)	8.61%	8.49%	8.83%	8.40%	8.60%	8.62%	8.63%	8.60%	8.62%	8.61%	9.23%	8.07%	9.59%	7.73%	8.61%	8.62%
RORE (%)	4.49%	4.24%	4.73%	4.24%	4.49%	4.49%	4.49%	4.49%	4.49%	4.49%	5.41%	3.60%	6.49%	2.49%	4.49%	4.49%
Dividend cover (x)	3.17	3.09	3.24	3.10	3.11	3.23	3.21	3.13	3.18	3.16	3.59	2.75	3.79	2.53	3.17	3.17
Dividend/regulated equity (%) ²	3.24%	3.24%	3.25%	3.24%	3.24%	3.24%	3.24%	3.24%	3.24%	3.24%	3.23%	3.25%	3.24%	3.24%	3.24%	3.24%
Net cash to shareholders ³	-5.84%	-5.96%	-5.74%	-5.95%	-5.27%	-6.44%	-6.08%	-5.61%	-5.78%	-5.90%	-3.43%	-7.98%	-4.59%	-6.82%	-5.85%	-5.84%
Required equity buyback/ (issuance) (£m)	(383)	(388)	(378)	(388)	(374)	(391)	(388)	(378)	(384)	(382)	(278)	(490)	(343)	(426)	(383)	(383)

Note: ¹ Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. Ofgem also measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. ² Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. ³ Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem's model.

Table 25 - SEPD: actual company. UM Scenario

Note: the actual company results for the UM scenario use the same actual cost of debt as the base Totex scenario. In practice, the actual cost of debt would differ by a few basis points, which has a very marginal effect on the financial ratios.

	Base case	Zero outperformance	Interest rate +1%	Interest rate -1%	CPIH +1%	CPIH -1%	Wedge +0.5% due to CPIH	Wedge -0.5% due to CPIH	Wedge +0.5% due to RPI	Wedge -0.5% due to RPI	TOTEX performance +10%	TOTEX performance -10%	RORE +2%	RORE -2%
Net debt/RAV (%) ¹	64.1%	64.3%	64.1%	64.1%	63.4%	63.9%	64.4%	63.8%	64.0%	64.2%	63.2%	65.0%	63.3%	64.4%
FFO interest cover (interest expense) (x)	4.13	4.07	3.80	4.55	3.89	4.47	4.27	4.00	4.13	4.12	4.34	3.92	4.54	3.75
FFO interest cover (cash interest) (x)	4.88	4.81	4.40	5.51	4.94	4.89	4.86	4.90	4.89	4.87	5.13	4.64	5.36	4.43
AICR (or PMICR) (x)	1.44	1.38	1.38	1.53	1.46	1.45	1.44	1.45	1.44	1.44	1.64	1.25	1.90	0.99
Nominal PMICR	2.29	2.24	2.15	2.47	2.60	1.95	2.14	2.42	2.31	2.26	2.46	2.13	2.69	1.91
FFO (cash interest)/net debt (%)	9.82%	9.64%	9.80%	9.84%	9.73%	10.08%	9.88%	9.76%	9.83%	9.80%	10.62%	9.08%	11.16%	8.58%
RCF/net debt (%)	7.94%	7.77%	7.92%	7.97%	7.84%	8.20%	8.01%	7.88%	7.96%	7.93%	8.72%	7.23%	9.27%	6.72%
EBITDA/RAV (x)	9.20%	9.08%	9.41%	8.99%	9.20%	9.22%	9.21%	9.19%	9.21%	9.19%	9.71%	8.71%	10.22%	8.21%
RORE (%)	4.47%	4.22%	4.47%	4.47%	4.47%	4.47%	4.47%	4.47%	4.47%	4.47%	5.30%	3.67%	6.47%	2.47%
Dividend cover (x)	3.64	3.56	3.63	3.65	3.58	3.72	3.68	3.60	3.65	3.63	4.01	3.28	4.28	3.01
Dividend/regulated equity (%) ²	3.16%	3.16%	3.16%	3.15%	3.16%	3.16%	3.16%	3.16%	3.16%	3.16%	3.15%	3.16%	3.16%	3.16%
Net cash to shareholders ³	-2.55%	-2.68%	-2.57%	-2.53%	-1.95%	-4.64%	-2.80%	-2.30%	-2.49%	-2.61%	0.76%	-6.00%	-2.20%	-5.22%
Required equity buyback/ (issuance) (£m)	(417)	(428)	(419)	(416)	(384)	(566)	(432)	(402)	(416)	(419)	(145)	(717)	(413)	(640)

Note: ¹ Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. Ofgem also measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. ² Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. ³ Computed as (dividends – equity issuance)/regulated equity.

Source: Oxera analysis, based on Ofgem's model.

Table 25 - SHEPD: actual company. UM Scenario

Note: the actual company results for the UM scenario use the same actual cost of debt as the base Totex scenario. In practice, the actual cost of debt would differ by a few basis points, which has a very marginal effect on the financial ratios.

	Base case	Zero outperformance	Interest rate +1%	Interest rate -1%	CPIH +1%	CPIH -1%	Wedge +0.5% due to CPIH	Wedge -0.5% due to CPIH	Wedge +0.5% due to RPI	Wedge -0.5% due to RPI	TOTEX performance +10%	TOTEX performance -10%	RORE +2%	RORE -2%
Net debt/RAV (%) ¹	65.4%	65.6%	65.5%	65.4%	64.9%	66.0%	65.6%	65.2%	65.4%	65.5%	63.9%	67.3%	65.1%	66.5%
FFO interest cover (interest expense) (x)	4.93	4.86	4.21	6.08	4.53	5.42	5.17	4.72	4.94	4.93	5.28	4.58	5.44	4.39
FFO interest cover (cash interest) (x)	6.20	6.12	5.06	8.26	6.26	6.15	6.18	6.23	6.21	6.20	6.64	5.76	6.84	5.52
AICR (or PMICR) (x)	1.64	1.56	1.48	1.93	1.65	1.62	1.63	1.65	1.64	1.64	1.95	1.33	2.26	1.00
Nominal PMICR	2.74	2.67	2.40	3.27	3.10	2.30	2.57	2.89	2.77	2.70	3.00	2.47	3.24	2.22
FFO (cash interest)/net debt (%)	9.01%	8.85%	8.98%	9.05%	8.88%	9.14%	9.09%	8.94%	9.02%	9.00%	9.94%	8.11%	10.24%	7.72%
RCF/net debt (%)	7.18%	7.02%	7.14%	7.21%	7.03%	7.32%	7.26%	7.09%	7.18%	7.17%	8.06%	6.33%	8.39%	5.92%
EBITDA/RAV (x)	7.76%	7.64%	8.07%	7.46%	7.75%	7.78%	7.77%	7.75%	7.77%	7.76%	8.37%	7.22%	8.74%	6.86%
RORE (%)	4.49%	4.24%	4.49%	4.49%	4.49%	4.49%	4.49%	4.49%	4.49%	4.49%	5.41%	3.60%	6.49%	2.49%
Dividend cover (x)	3.22	3.14	3.20	3.23	3.15	3.28	3.26	3.17	3.22	3.21	3.63	2.81	3.84	2.58
Dividend/regulated equity (%) ²	3.23%	3.23%	3.23%	3.22%	3.23%	3.23%	3.23%	3.23%	3.23%	3.23%	3.22%	3.24%	3.23%	3.23%
Net cash to shareholders ³	-5.73%	-5.86%	-5.77%	-5.70%	-5.18%	-6.31%	-5.96%	-5.51%	-5.68%	-5.79%	-3.35%	-7.83%	-4.48%	-6.70%
Required equity buyback/issuance) (£m)	(379)	(385)	(380)	(378)	(371)	(387)	(384)	(374)	(380)	(378)	(275)	(485)	(338)	(422)

Note: ¹ Gearing is above the notional assumption of 60% as Ofgem models a 5% equity issuance threshold. Ofgem also measures gearing using closing values, whilst equity issuance takes places at the beginning of each year. ² Ofgem's construction of the ratio is based on closing RAV in the numerator and NPV-neutral RAV in the denominator. As closing RAV > NPV-neutral RAV, the ratio is marginally higher than 3%. ³ Computed as (dividends – equity issuance)/regulated equity.

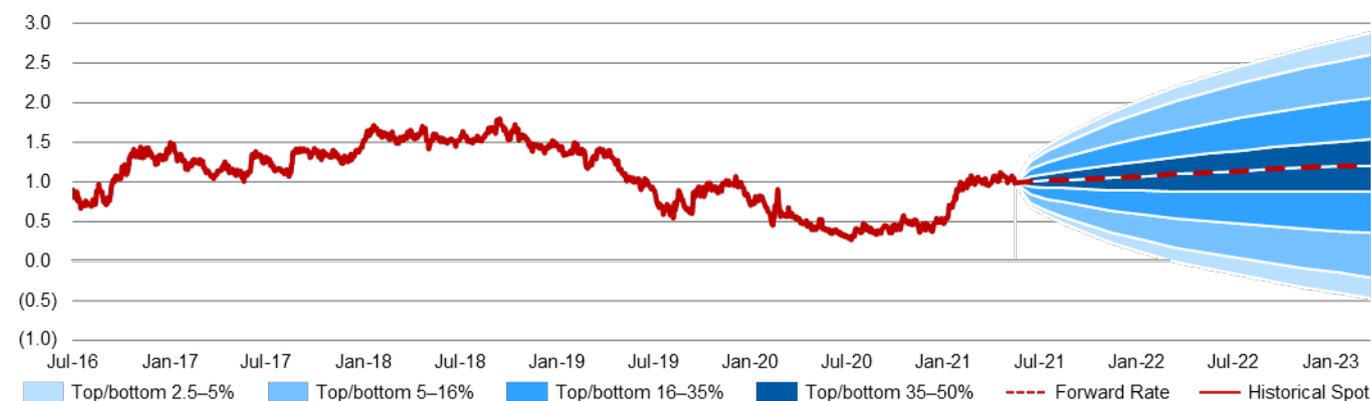
Source: Oxera analysis, based on Ofgem's model.

APPENDIX 2 - MORGAN STANLEY COSTS OF DEBT DATA

Figure A1

Historical 10 year Swap Rates and Confidence Interval Projection

Since 2016 (%)

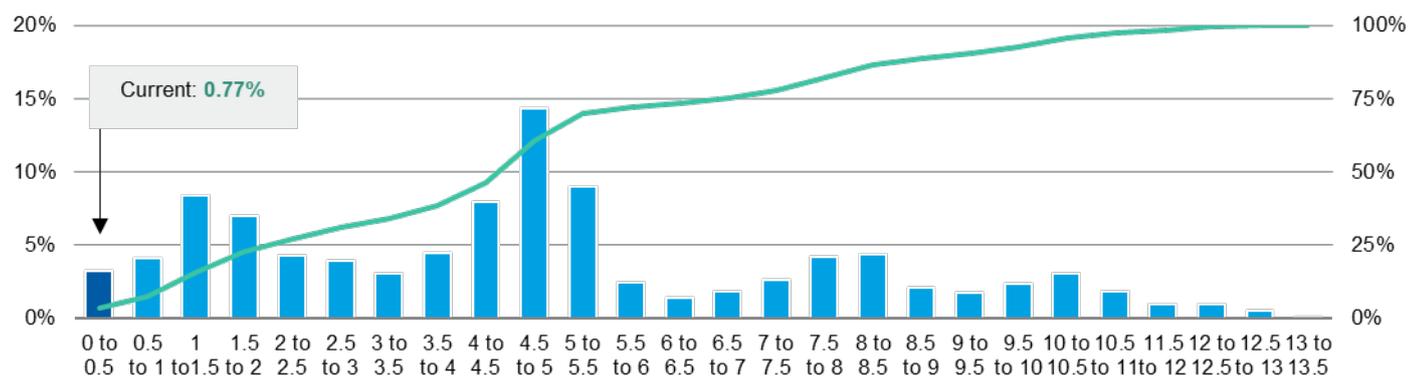


Source: Bloomberg, Morgan Stanley

Figure A2

Historical 10 year Gilt Yield Distribution

Since 1989

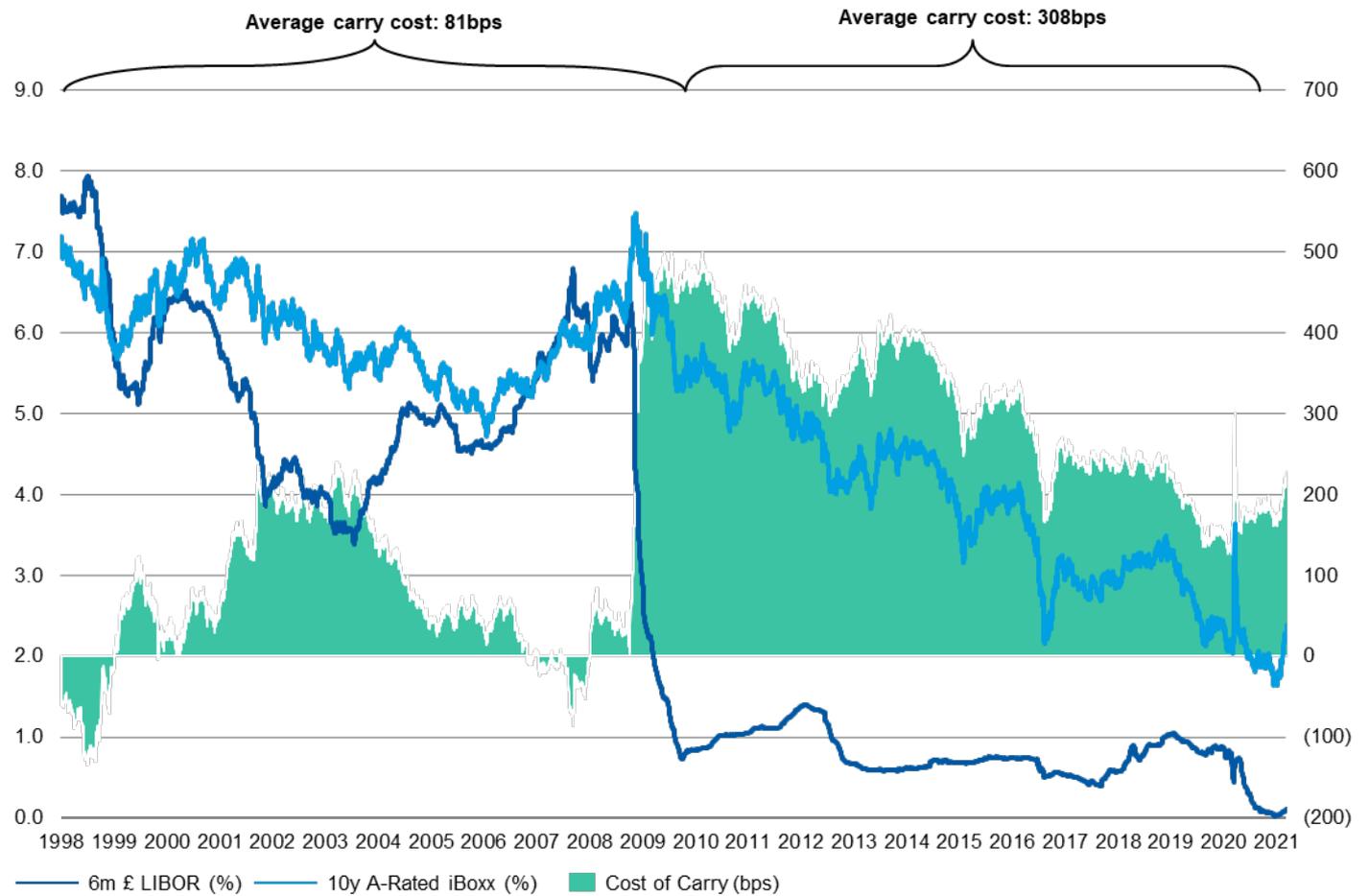


Source: Bloomberg

Figure A3

Cost of Carry in GBP for A-Rated Corporates

Since 1998 (%)



Source: Bloomberg, iBoxx

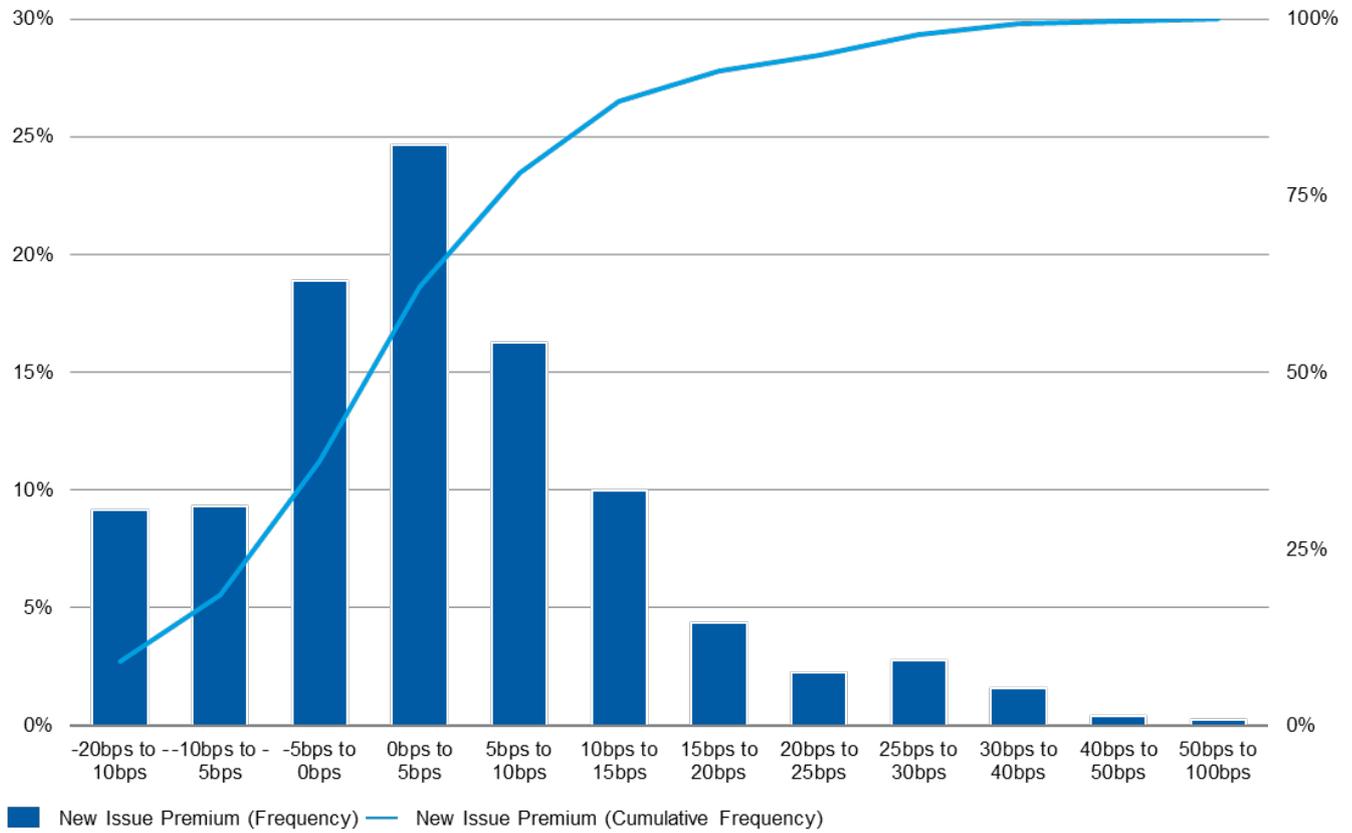
Figure A4

New Issue Premiums for Corporate EUR issues

April 2020 to April 2021

Frequency

Cumulative Frequency



Source: Morgan Stanley

Notes:

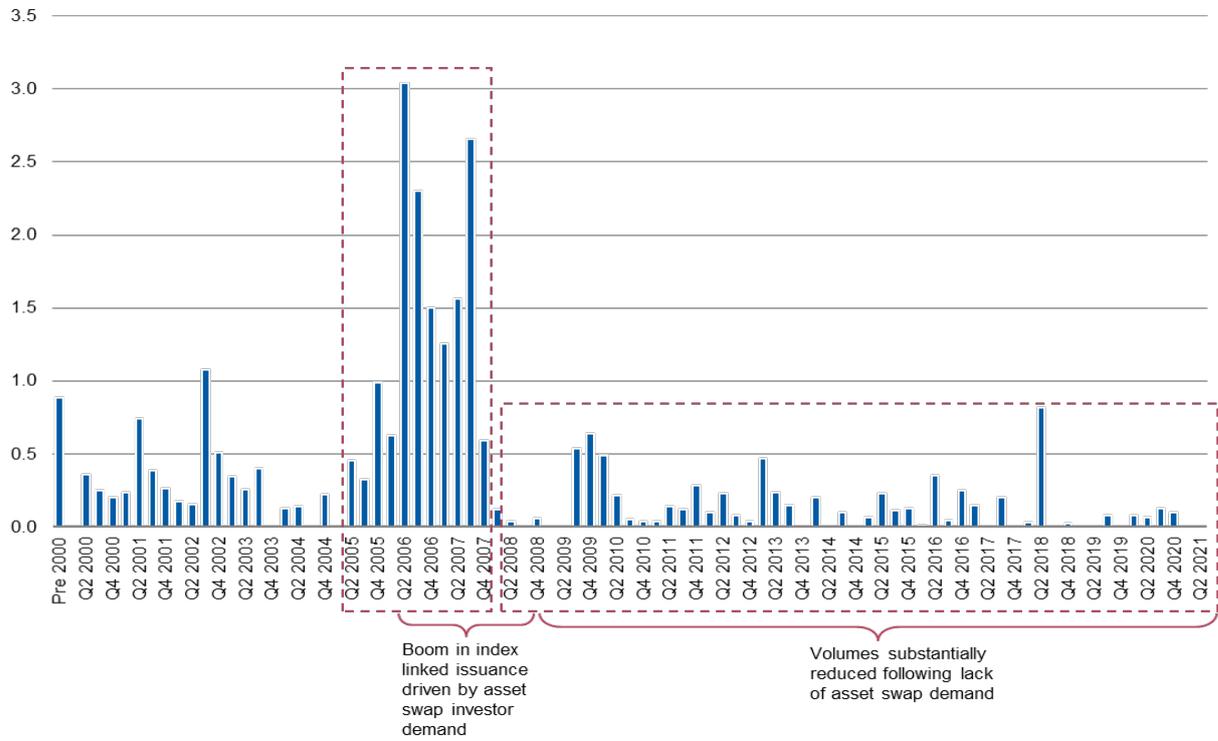
1. We have used new issue premium data for new EUR bond issues owing to a lack of data for GBP bond issues. However, we note a similar phenomenon exists in the GBP market.

Figure A5

UK Corporate Index-Linked Bond Issuance

Quarterly since 2000

£Bn



Source: Bloomberg

Excludes BT £1bn CPI linked issuance directly into the BT Pension Fund in Q2 2018