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WPD's Cost of Debt under Ofgem's RIIO-ED1 Method

Proposal for a Weighted Cost of Debt Index

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Terms of Reference

- Ofgem's framework determines the allowed cost of debt over RIIO-ED1 based on a 10Y trailing index of historical benchmark yields (debt indexation)
- A firm's actual financing cost is determined by its embedded debt costs (which are the result of past financing decisions) and the future coupon cost of raising new debt
- There is therefore a risk for WPD to under-/ over-recover its actual debt costs over RIIO-ED1 under Ofgem's debt indexation method
- In this presentation we show that using a weighted index based on WPD's capital expenditure (CAPEX) programme instead of an unweighted index would reduce the risk of under-/ over-recovery of WPD's actual debt costs

Weighted index justification

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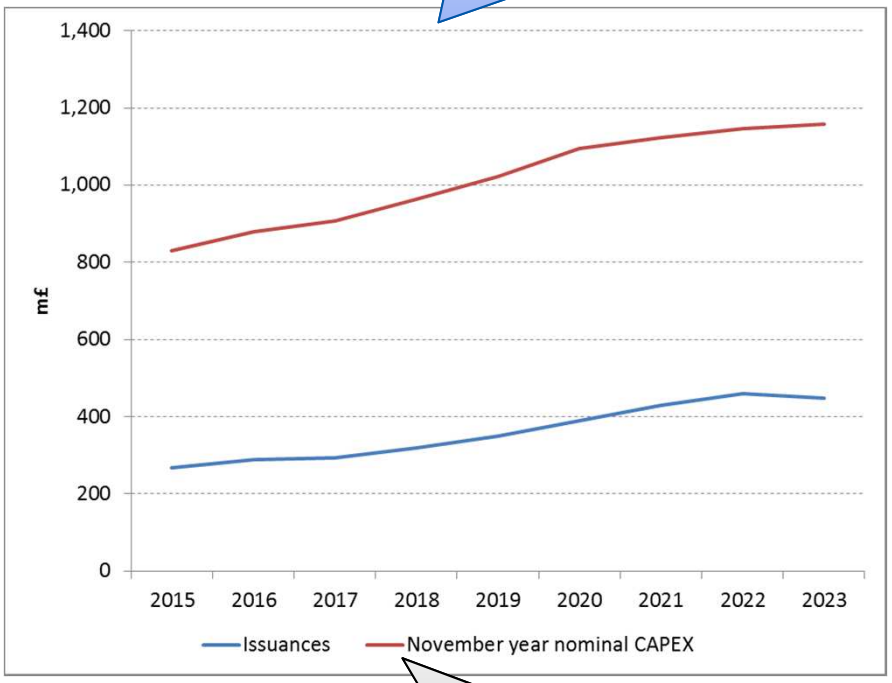
- The 10-year trailing average that Ofgem suggested is optimal for a companies that raises debt in equal instalments
- However, WPD has had and will have a discontinuous debt issuance programme, with more debt raised at certain times than others. During those times, the cost of debt indexation suggested by Ofgem will lead to over-/ or under- recovery of actual debt costs.
- It is possible to reduce this risk of over-/ or under- recovery of actual debt costs by using an index that replicates more accurately the actual timing of debt issuance of WPD.
- As debt is used to finance capital, such an index would also track more closely the timing of WPD's capital expenditures.

As WPD doesn't raise debt in equal installments, the debt allowance based on an equally weighted index leads to risk of over-/ under-recovery



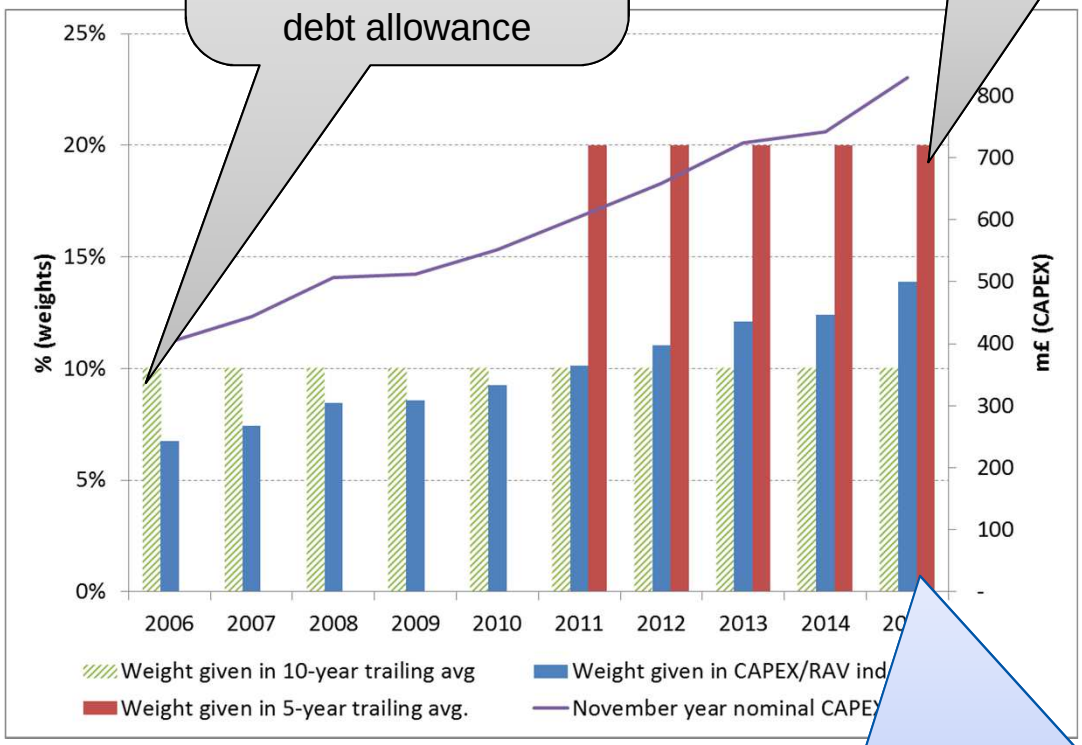
As debt is issued to finance CAPEX, giving more weights to years with high CAPEX would track more closely WPD's actual cost of debt

We define two different weighted cost of debt indices

- 10-year trailing average: This is the average of the real cost of debt for the previous 10 years. For future years, it is the sum of the risk-free rate and the spread on A/BBB bonds.
  - The risk-free rate is the average of 4000 simulations of the 10-year real interest rate.
- 5-year trailing average: This is the average of the real cost of debt for the previous 5 years.
- CAPEX/RAV Weighted Index: This is the weighted index of the real cost of new debt by the CAPEX in previous year divided by the RAV in current year

We show Ofgem's proposal to use a 10-year trailing average of historical cost of new debt for WPD's cost of debt allowance

For comparison purposes we have calculated a 5-year trailing average index



A more accurate weighting would weight past years according to the debt issued in this year divided by the total current debt. We proxied this by assuming that gearing is at steady state and weighting past years according to CAPEX in this year divided by total current RAV

We assess the risk reduction performance of the weighted indices

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- To assess the ability of the weighted indices to track more closely the actual cost of debt than an unweighted index, we make simulations of paths of future interest rates (1000 draws from a normal distribution calibrated on historical forward curves) and assess the variation of some key indicators of WPD ability to recover debt costs
- The first metric we have looked at are annual interest payment allowances during the RIIO-ED1 period. An annual payment allowance in a given year is equal to Allowed RAV (m£) x Gearing (%) x Allowed cost of debt (%)
- We have then looked at the distribution of some key credit metrics:
  - FFO / Avg Total Debt;
  - FFO / Interest Cover.

Interest Payment Allowance – Dispersion over time

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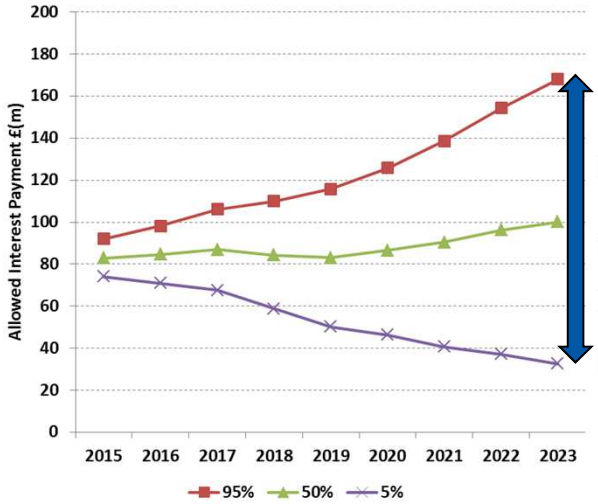
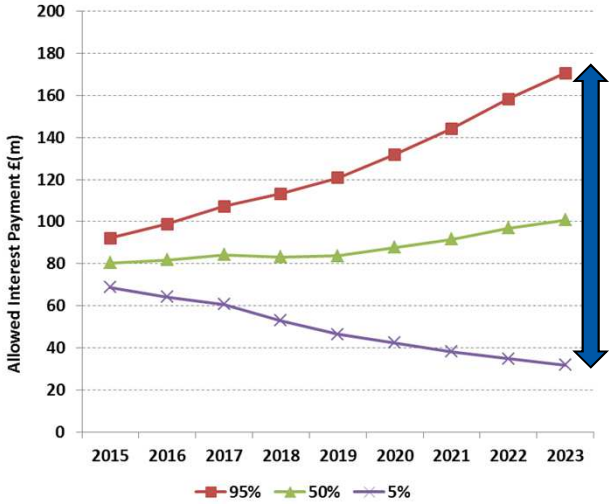
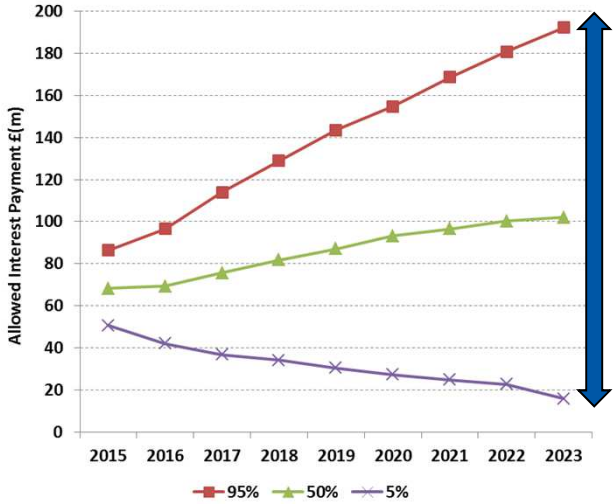
10-year trailing average



CAPEX/RAV weighted index



5-year trailing average



5-year trailing average shows the greatest dispersion in the interest payment allowance out of all the indices, while the 10-year trailing and the CAPEX/RAV weighted index produce similar distribution of outcomes

Simulation of FFO / Avg Total Debt under the three difference debt indices

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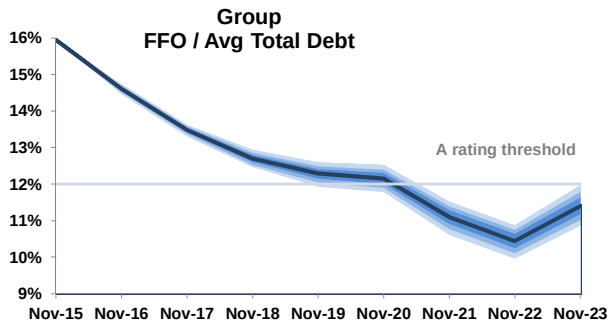
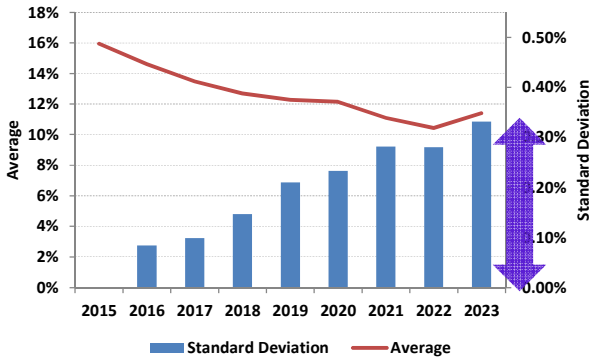
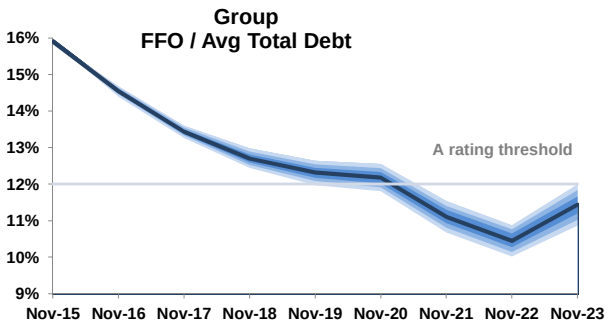
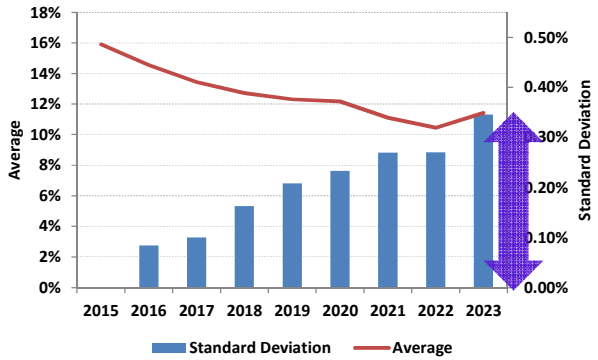
10-year trailing average



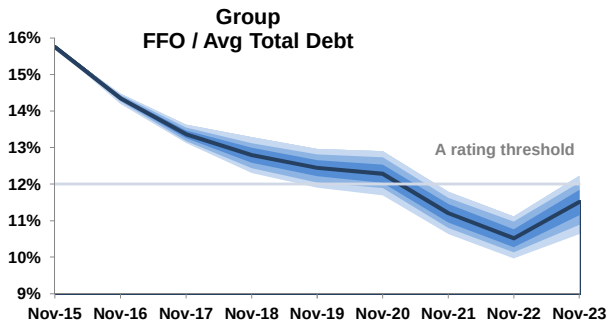


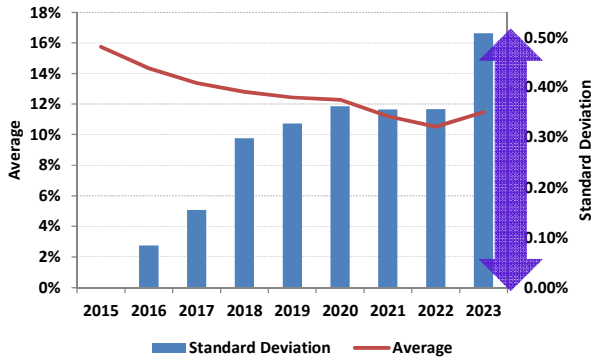
CAPEX/RAV weighted index





5-year trailing average





The 5-year trailing average displays the most dispersion in FFO / Avg Total Debt while the 10-year trailing and the CAPEX/RAV weighted index produce similar distribution of outcomes. The averages are broadly the same across all the indices.

Simulation of FFO/Interest Cover under the three difference debt indices

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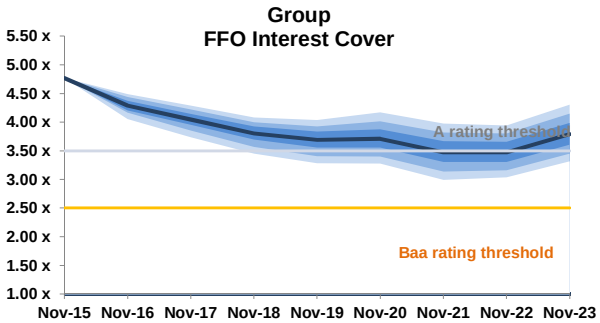
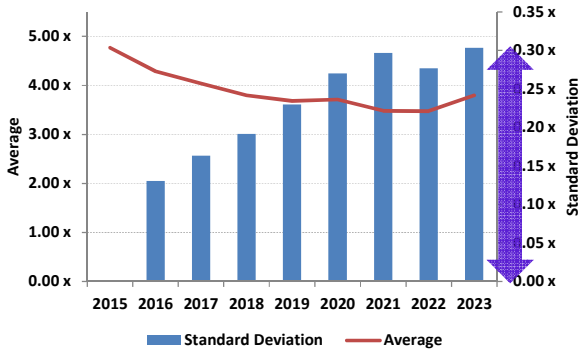
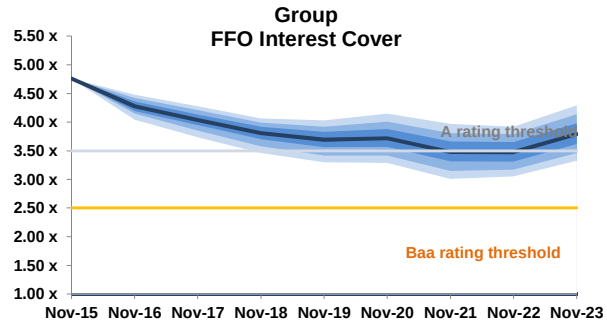
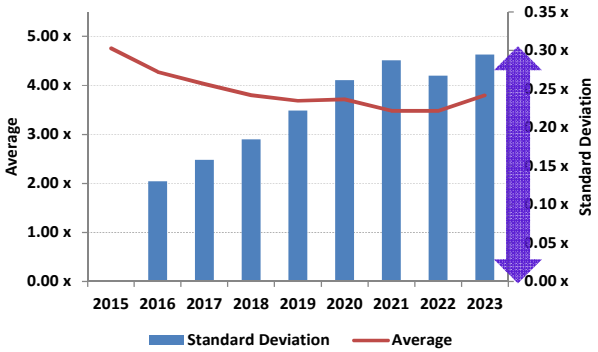
10-year trailing average



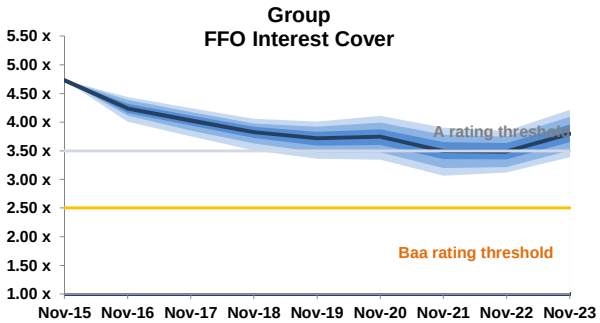


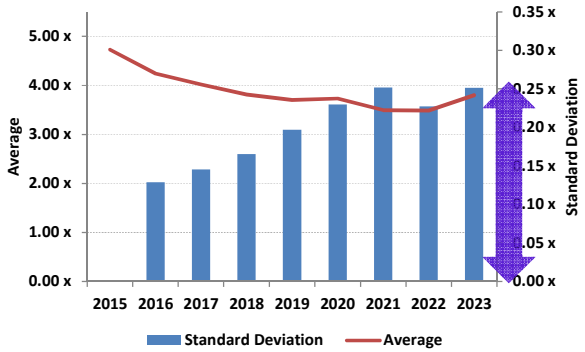
CAPEX/RAV weighted index





5-year trailing average





The 5-year trailing average displays the *least* dispersion in FFO Interest Cover while the 10-year trailing and the CAPEX/RAV weighted index produce similar distribution of outcomes. The averages are broadly the same across all the indices.

→ The Capex/RAV index is not reducing under-/over- recovery risk, but a more spiky capex programme will probably change this result

Conclusion

- Given the current CAPEX programme of WPD for the RIIO-ED1 period, which plans CAPEX increasing at a limited and stable pace, a weighted index based on CAPEX would not make a big difference with an equally weighted index
- If WPD were to change its CAPEX programme for a more spiky one, then a weighted debt costs index based on CAPEX could reduce significantly the risk of over-/ or under-recovery on debt costs.

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