Annex 14: Rate of Return Adjustment Mechanism

1.1 In Chapter 10 we explain why we think it will be appropriate for the UR to make an ex post adjustment to the GD17 allowed costs of debt as part of the GD23 review of PNGL's and FE's price controls.

1.2 As set out in the draft determination, there are a number of possible ways in which such an adjustment could be set up. Our consultation proposal involved the UR looking at the actual interest rates that PNGL and FE pay after their refinancings and truing up for the lion's share of any out- and under-performance against the allowed costs of debt specified within this final determination.

1.3 PNGL and FE both argued against such an approach on the grounds that it would dilute incentives to raise debt at the lowest possible cost if companies know that the benefit of any financing efficiencies they are able to achieve – or the costs of any sub-optimal borrowing – will for the most part flow through to customers rather than to shareholders. They instead advocated an alternative approach[1] in which the allowed cost of debt is adjusted up or down in line with identifiable movements in market interest rates. The suggestion was that this approach would target exogenous interest rate risk while giving companies very strong incentives to manage the company-specific factors that impact on borrowing costs.

1.4 After evaluating the different options, the UR has not found that one approach is clearly superior to the other. The UR accepts that the original draft determination design could potentially result in customers covering the costs of inefficient borrowing arrangements. However, we would also be concerned if a situation were to arise under PNGL's and FE's alternative proposal in which the GD23 true-up manifestly fails to reflect the out-performance that the companies have been able to generate.

1.5 Given that the arguments here are finely balanced, it is interesting to note that regulatory precedent in this area is more aligned to PNGL's and FE's approach, insofar as cost of debt adjustment mechanisms in other regulated sectors tend to be built around observable changes in readings of market interest rates. Consequently, we have decided not to proceed with the approach outlined in the draft determination. Instead, we propose that the UR should proceed broadly in the direction that PNGL and FE recommend and provide in GD23 for a true-up that captures changes in market-wide interest rates.

Cost of debt adjustment mechanism – design

1.6 Our intention is that the adjustment mechanism will operate as follows. Table 1 reproduces the Chapter 10 'baseline' estimates of PNGL's and FE's GD17 costs of debt. The inputs highlighted in yellow are to be regarded as holding assumptions that apply

[1] In FE's case, in the context of overall opposition to any form of cost of debt adjustment.

until the two businesses enter into new borrowing(s) to refinance their existing debts and fund new investment. All other inputs into the calculations are fixed allowances.

Table 1: GD17 cost of debt calculations

Company	Average nominal cost of debt, GD17			
PNGL			Current market rate	4.4%
			Forward rate adjustment	0.4%
	Average interest costs	4.3%	Illiquidity premium	0.4%
	Transaction costs	0.3%	Transaction costs	0.4%
	Embedded debt	4.6%	Cost of new debt	5.6%
	10:90 weighted average			
	Weighted average cost of debt = 5.5%			
FE			Current market rates	4.4%
			Forward rate adjustment	0.8%
	Average interest costs	4.1%	Illiquidity premium	0.4%
	Transaction costs	0.6%	Transaction costs	0.6%
	Embedded debt	4.7%	Cost of new debt	6.2%
	40:60 weighted average			
	Weighted average cost of debt = 5.6%			

1.7 At the time of the GD23 review, our expectation is that the UR will replace the figures highlighted in yellow with replacement figures based on estimates of the prevailing market interest rates for BBB rated corporate borrowers at the point(s) in time when the companies raise new debt. The replacement figures will be obtained as follows:

- data source – the UR will use information about bond market prices/yields contained within the Markit iBoxx database; and
- index family – the UR will refer specifically to the iBoxx £ non-financials BBB indices;

- tenor – this family of indices contains separate series for tenors of bond of 1-3, 3-5, 5-7, 7-10, 10-15 and 15+ years, as well as other more aggregated data. The UR will read off the reported yield from the series[2] that most closely matches the tenor of the debt that PNGL and FE raises. For example, if a company raises debt with a tenor of 12 years, the UR will refer to the 10-15 years index. If a company raises debt with a tenor of 6 years, the UR will refer to the 5-7 years series; and
- averaging – the reading will be for the average reported yield on the relevant series over the whole of the calendar month in which PNGL and FE carried out their financing exercise; and
- sharing – the replacement figures, in place of the cells highlighted in yellow, will be set 80% of the way between the original final determination and the relevant iBoxx reading.

1.8 This design is consistent with proposals put forward by the companies, with one important exception. PNGL and FE both originally suggested that the UR should refer to the 10+year iBoxx series, irrespective of the tenor of the borrowing they enter into. In response to UR concerns that this could give the companies sizeable unearned rewards if they borrow for a shorter duration (NB: the yield curve is upward sloping, so that a company that borrows for a shorter period pays less interest than a company that borrows for a longer period), PNGL subsequently revised its proposal to allow the regulator to select from the 1-3, 3-5, 5-7 and 7-10 years indices in the event that the tenor of PNGL's actual debt is less than 8 years, with a default to the 10+ years index in all other cases.

1.9 The UR has considered these propositions, but is not clear why it should naturally default to the 10+ years series when there exist indices for other, more directly comparable tenors of bond. Nor does it agree with the proposition that the UR should seek deliberately to reward companies for issuing debt with a particular tenor (i.e. by aligning the allowed cost of debt to the (higher)10+ years index even when a company borrows for, say, 8-10 years), as PNGL appears to have advocated in its recent correspondence with us. Finally, the companies raised a concern the UR approach will encourage short tenor. On review we cannot identify why the debt mechanism would strongly encourage short term debt, particularly where we have already decided to base the updated benchmark on the actual tenor

1.10 We are therefore proposing that in GD23 the UR should take a reading on the yield on most relevant series, as set out above.

Cost of debt adjustment mechanism – worked example

1.11 The computations that the UR will need to perform to come up with revised cost of debt allowances for the two businesses can be illustrated with a simple worked example. For the avoidance of doubt, the figures that follow are dummy numbers that have been invented solely for the purposes of this illustrative analysis.

1.12 Suppose that PNGL issues new bonds in May 2017 and that in this month the average values of the iBoxx indices are as set out in Table 2.

[2] using iboxx rules

Table 2: Illustrative values for the yields on iBoxx £ non-financials BBB indices

Tenor	Average yield, month
1-3 years	2.20%
3-5 years	2.80%
5-7 years	3.20%
7-10 years	3.60%
10-15 years	3.80%
15+ years	3.90%

1.13 The UR will read off the relevant row from the table, according to the tenor of the debt that PNGL issues, and replace the sum total of the figures in yellow in table 1 with that number. For example, if PNGL issues debt with a 12-year tenor, the UR would input a figure of 3.80% into the cost of debt calculation, in place of the 4.4% + 0.4% holding assumption. Likewise, if PNGL issues debt with a 6-year tenor, the UR would input a figure of 3.20% into the cost of debt calculation.

1.14 Table 3 shows how the recomputed cost of new debt will flow through into 20:80 sharing and from there on into the allowable WACC.

Table 3: Illustrative application of the adjustment mechanism, PNGL

	iBoxx reading = 3.8%	iBoxx reading = 3.2%
Revised, post-refinancing allowed nominal cost of new debt	4.80%	4.32%
Revised, post-refinancing allowed overall nominal cost of debt	4.78%	4.35%
Revised, post-refinancing allowed overall real cost of debt	1.66%	1.24%
Revised, post-refinancing overall WACC	3.88%	3.65%

1.15 The same steps will apply in the case of FE, only using iBoxx data for the month in which it carries out its financing exercise and using the fixed inputs in the bottom half of table 1.

1.16 Annex 15 sets out the computations in greater detail, and also shows how the UR would expect to handle multiple debt raising exercises and/or a gradual draw down of debt over the 2017-22 period. This was an issue raised by the companies in response to consultation on the cost of debt adjustment.

Cost of debt adjustment – treatment of RPI inflation

1.17 The costs of debt in tables 1 and 2 are in nominal terms. The costs of debt that feed into PNGL's and FE's overall cost of capital calculation are expressed in real terms. The UR proposed in its draft determination that it should transform the estimated nominal cost of debt to its real equivalent using a fixed forecast of RPI inflation, as established in the GD17 review. The UR confirms this approach.

1.18 PNGL and FE both advocated a different approach in which the UR would provide for annual inflation to be subject to the same kind of adjustment mechanism that is to be applied to the forecasts of prevailing nominal market interest rates. The UR has not been persuaded by the companies' representations on this matter. The cost of debt adjustment mechanism is intended to be a proportionate response to a very specific problem – i.e. the impending refinancing by PNGL and FE of their entire borrowings, and the UR's inability to forecast with accuracy what interest rates the businesses' might be able to obtain in these refinancings. The uncertainties here relate only to the parameters that the UR has highlighted yellow in table 1.

1.19 The UR accepts that it might mis-forecast RPI inflation and/or make too big or too small an allowance for inflation in the nominal-real transformation of the cost of debt, but many other regulated companies find themselves in a not dissimilar position and it is not clear why the UR should step in to shield PNGL and FE from this type of risk in this review, contrary to normal regulatory practice. The UR also does not agree with an argument that PNGL has advanced which says that a nominal interest rate adjustment mechanism has to go hand-in-hand with an inflation adjustment mechanism because interest rates and out-turn RPI inflation are highly correlated, and that to adjust for the former but not for the latter could give rise to a claw-back of revenues when no actual gains have accrued to the companies. Having compared the iBoxx indices and out-turn rates of inflation over the last ten years, we see no clear evidence of such a correlation.

1.20 The UR's preference is therefore to focus the cost of debt adjustment mechanism solely on the problem in hand, and to limit the scope of the GD23 true-up to changes in market interest rates only, as set out in paragraphs 1.6 to 1.10 above.

Tax

1.21 In Chapter 10 we explain how we will adjust for the changes in the statutory corporation tax rate within the Rate of Return. This methodology is incorporated within the Rate of Return Adjustment spreadsheet which is included as Annex 15.

Method of true-up

1.22 The adjustment mechanism would take effect as part of the GD23 review along with other uncertainty mechanism adjustments. The UR will compare the allowed revenues that it is providing for in this determination with the allowed revenues that PNGL and FE would have been entitled to had the post-refinancing, post-adjustment WACC been known to the UR at the time of this decision. The difference between the two streams of revenue will be rolled up in a NPV-neutral way and added or subtracted from the businesses' TRVs from 1 January 2023.