

**RIIO-2: Prior Year Adjustments**  
**Prepared for the Energy Networks Association**  
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**1. Context**

This note offers some observations on Ofgem's RIIO-2 proposals for the "interest rate" on prior year adjustments.

I begin by recalling how regulators, including Ofgem, originally came to use different measures of financing costs in different parts of their price control calculations.

I then consider how Ofgem might approach the calibration of its RIIO-2 adjustment mechanisms.

**2. History**

Price controls used to be much simpler than modern-day RIIO controls. The early regulatory reviews conducted as part of, and then after, the privatisation of the UK's utility networks tended to produce fixed, known entitlements in which companies were able to charge an agreed level of prices or collect a particular amount of revenue for periods of five years at a time. The concept of prior year adjustments, for the most part, did not arise – i.e. companies' entitlements tended not to vary in accordance with companies' actions or with other new information that emerged during the price control period.

The first examples of prior year adjustments that I can recall were the **correction formulae** that most regulators put in place to deal with over- and under-recovery of revenues. The expectation right from the start of RPI – X regulation was that regulated companies would find it hard to set charges at the level that they needed to exactly hit their price or revenue caps. Licences therefore contained algebra that provided for any over- or under-collection of regulated entitlements to be corrected with a lag of one or two years (e.g. an over-collection of revenues in year  $t$  would be returned back to customers in year  $t + 1$  or year  $t + 2$ , and vice versa so that a company could make up for any under-collection in the same short space of time).

These correction mechanisms have always provided for over- and under-recoveries to roll forward with interest. The interest rates have differed slightly from control to control, but have tended to take the form of a reference benchmark like the Bank of England base rate or Treasury Bill yields plus a percentage margin. The thinking was that regulated companies would maintain either an amount of working capital or a working capital bank facility and that relatively small perturbations in allowed vs collected revenues would be managed via a temporary draw down or a build up of such balances, with accompanying payment/loss/avoidance of bank interest (as applicable).

As regulatory designs began to evolve in the late 1990s and early 2000s, regulators then started to encounter other situations in which a regulated company could face a mismatch between revenue requirements and permitted revenues. The scenario that I recall came up most frequently at this time arose from the interventions that regulators used to make to **smooth prices** over each five-year regulatory period. Rather than set allowed revenues in line with the natural annual values of opex/depreciation/return/etc., regulators would consciously choose values for the starting price level (" $P_0$ ") and the annual change in prices (" $X$ ") that they felt gave the regulated company the revenues that it needed over a sensible, smooth year-by-year price path and which avoided any kind of price rollercoaster for customers.

The regulated company would typically face a situation in which it was deliberately over- or under-remunerated in years 1 and 2 of a regulatory period, with offsetting corrections in the later years of the price control. This sculpting of  $P_0/X$  values was always implemented in an NPV-neutral manner, with the discount rate in the net present value calculation being set equal to the allowed cost of capital. In effect, regulators took the view that the under- or over-recovery of revenues was equivalent in mathematical terms to the deferment or advancement of cashflows that would otherwise have accrued to companies via the depreciation of their regulatory asset values (RAVs); insofar as the under- or over-recovery would be financed by incremental amounts of investor capital, regulators saw no reason to differentiate the cost of that capital from the cost of capital that they were using elsewhere in the price control.

The same thinking then applied when regulators began to provide for regulated companies to accrue entitlements to collect revenue for **additional investments** that were not envisaged or allowed for in a regulator's base price controls. These accruals could arise for a variety of reasons: sometimes a regulator could not pin down the scope of a company's capital programme at the time of the price review; on other occasions, it might be that the regulator did not feel comfortable fixing the cost allowance for a known scheme. In each case, the regulator would promise the company that it would "log up" incremental costs and provide starting from the next set of price controls for customers to pay for qualifying expenditures.

As a general rule of thumb, the amounts that regulated companies were able to carry forward under such schemes included capitalised financing costs, where financing costs were set equal to the allowed cost of capital. Regulators therefore recognised that the expense incurred by a company comprised not just the cash outlays they were making but also the cost of financing their expenditures without any incoming revenue from customers. The allowance for financing costs effectively meant that the regulated firm was in the same position in value terms that it would have been in had the regulator been able to anticipate the firm's activity from the outset and provided upfront for the expenditure in its original price control determination.

Figure 1 gives an overall summary of the framework that a company might have operated under.

### Figure 1: Early examples of prior year adjustments

<u>Correction formulae</u>	<u>Price smoothing</u>	<u>Additional investments</u>
Interest rate = BoE base rate or LIBOR plus a margin	Discount rate = allowed cost of capital	Capitalised financing costs = allowed cost of capital
- financed via working capital / bank facility	- financed via new investor capital	- financed via new investor capital
- adjustment plays out over up to two years	- adjustment plays out over up to five years	- adjustment plays out over up to five years
- small £m amounts	- moderate £m amounts	- large £m amounts
Example: Energy network licences	Example: TPCR3 <sup>1</sup>	Example: NATS regulatory framework <sup>2</sup>

<sup>1</sup> <https://www.ofgem.gov.uk/ofgem-publications/79312/transmission-price-control-review-ngc-2001-transmission-owner-final-proposals-2709pdf>

<sup>2</sup> [http://www.nats.aero/wp-content/uploads/2010/06/RAGs\\_Issue\\_4\\_16\\_March\\_2005.pdf](http://www.nats.aero/wp-content/uploads/2010/06/RAGs_Issue_4_16_March_2005.pdf)

### 3. Considerations For RIIO-2

Ofgem's new RIIO-2 controls will contain a much broader set of potential adjustment mechanisms. However, many of the RIIO-2 mechanisms can be said to be a further development of one of the columns in figure 1. As such, I think that this quick recap of history may offer Ofgem guidance as it assesses how to calibrate the interest rate / discount rate / financing costs that it should apply within the designs of its different mechanisms.

#### 3.1 Key consideration: investor capital requirement

The first question that I think Ofgem ought to ask is: will the deployment of a particular prior year adjustment mechanism result in a change in the size of the investor capital base?

In the cases of the price smoothing and allowances for additional investment that I highlighted in section, the answer to this question was clearly "yes" - i.e. companies needed investors to finance deferrals of revenues and/or could downsize amounts owed in the event of advancements of revenues. Regulators then recognised that the capital requirements had a cost and judged that there was no reason to think that the cost was any different to the regulated company's cost of capital, as applied to investor capital that was held formally within the RAV.

If Ofgem can similarly answer "yes" in the case of any its proposed RIIO-2 mechanisms, I would argue that the same logic ought to apply. This may include situations in which a company is asking investors:

- to finance expenditure which will not be paid for by customers until later in the RIIO-2 period or until RIIO-3 controls or via eventual additions to the RAV; and/or
- to finance the conscious deferral of revenue, leading to an under-recovery of the company's 'building block' revenue entitlements over the same kinds of horizon.

The same logic should also apply in reverse, i.e. if the investor capital requirement decreases because the company:

- is not incurring previously anticipated expenditure; and/or
- is getting an advancement of revenues relative to its 'building block' requirement.

In these cases, there is an equivalent financing cost saving.

I find it hard to conceive of a reason why the financing costs involved in these situations should be any different from the calculated cost of capital. I note that CEPA in its July 2020 paper<sup>3</sup> for Ofgem makes the argument that "the way Ofgem treats prior-year adjustments may entail a different, lower level of risk for companies compared to the main allowed cost of capital". Specifically, CEPA states that:

By the time Ofgem comes to calculate prior-year adjustments, much of the risk in the company has already crystallised. Once calculated, the payment of a prior-year adjustment is effectively independent of the company's ongoing performance—that risk is in the past.

I do not find this argument persuasive. The primary purpose of the allowed cost of capital is to ensure that investors are appropriately compensated for an exchange in which they finance expenditure upfront and are paid by customers in installments over a period of 20 to 56 years. When Ofgem rolls over its RAVs from one year to the next and provides a return to compensate investors for the delay in the reimbursement of their investment, the expenditure risk has already

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<sup>3</sup> Ofgem (2020), Prior-year adjustment uplifts.

crystallised, to borrow CEPA's language. The probability that the regulator will renege on the promise that is implicit in RAVs is no greater than the likelihood that the regulator will choose not to honour a promised prior year adjustment. Accordingly, I do not see that there is any material difference in the risk profile around the RAV and the risk profile around prior year adjustment mechanisms.

It is not then possible to separate out the exposures that investors have to risks around the company's ongoing performance. The capital that investors put into regulated businesses cannot be ring-fenced or hypothecated to different purposes. Instead, each increment of capital ought to be thought of as an expansion or a reduction of the total amount of capital that investors have at risk, with every £1 of capital bearing identical risks around demand, costs and performance. (I am reminded at this point of debates about the so-called split cost of capital proposition, which regulators have consistently rejected on the grounds that capital and associated revenues cannot be separated into component A that takes one set of risks and component B that takes another set of risks.<sup>4</sup>)

The thought experiment at this point has to be: what rate of return would apply if a company's investor capital base expands for reasons that are not related to prior year adjustments? Possible parallels might include situations in which a company starts to increase/reduce investment levels or if Ofgem alters its RAV depreciation profiles or if Ofgem were to change totex capitalisation rates. These kinds of changes happen all the time and in each case Ofgem allows in its price control calculations for an increase or reduction in financing costs in accordance with the allowed cost of capital. It seems obvious to me that Ofgem should treat changes in the investor capital base that arise due to the prior year adjustments in an exactly analogous way.

### **3.2 Other considerations**

The first column in figure 1 shows that there can be specific circumstances in which it might be reasonable to think that changes in short-term capital requirements can be financed via the drawn down or build up of bank deposits/facilities. I would therefore append the question that I posed in section 3.1 with three further questions:

- a) does the prior year adjustment mechanism add to the potential variation in the regulated firm's cashflows;
- b) will the monetary value of the prior year adjustments be material in £m terms; and
- c) will the prior year adjustments play out over a period of more than two years?

In my view, if the answer to any of these questions is "yes", this further reinforces the case for allowing financing costs set equal to the full cost of capital rather than a short-term deposit/borrowing rate.

In the case of a), it is important to remember that companies were privatised with a finite amount of working capital, specifically to allow them to manage mismatches in the timing of costs and revenues (NB: this working capital was explicitly or implicitly factored into the calculation of day 1 RAVs). Managing the under- and over-recovery of revenues was therefore a business-as-usual activity and the continued use of old-school price control correction factors imposes no real additional cost, other than the interest payable/receivable in years when corrections are required.

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<sup>4</sup> See, for example, the Competition Commission's findings in Competition Commission (2008), Stansted Airport Ltd Q5 price control review, appendix L.

However, the same cannot be said of the other prior year adjustment mechanisms that Ofgem will be putting in place for the RIIO-2 period.

For b) and c), it is one thing to manage relatively small, short-lived perturbations in income via bank deposits and facilities, but it is a very different proposition if companies are potentially being asked to deal with much bigger amounts of under- or over-remuneration and/or if balances are being carried forward for periods that extend (well) beyond two years. These are not circumstances in which companies would typically look towards working capital. Rather, they constitute a call on the main investor set, effected either via a modification to the amount and profile of the company's borrowing programme and/or an adjustment to retained profit amounts and dividend payouts.

I would therefore caution against any default assumption that each and every RIIO-2 prior year adjustment can be accommodated by companies within conventional short-term financing arrangements. It is much more likely that the mechanisms Ofgem is proposing to use will create a different kind of capital requirement and give rise to financing costs in line with the standard cost of capital rather than very low short-term deposit/borrowing rates.

#### **4. Conclusions**

At the end of this discussion I disagree with two of the proposals that Ofgem makes in its July 2020 RIIO-GD2/T2 draft determinations:

- the proposal that Ofgem ought to apply the same interest rate/discount rate/financing costs to all prior year adjustments; and
- the conclusion that the appropriate "interest rate" is always and everywhere the prevailing cost of short-term debt.

My alternative take is as follows.

#### **Under- and over-recoveries against the revenue cap should roll forward at a benchmark interest rate**

The base-rate-plus-a-margin term in price control formulae has a history that goes back 30 years. Investors in energy network companies understood at privatisation that they were buying into this framework of correcting for under- and over-recoveries and are properly compensated for the costs involved. There is no obvious reason that I can see for upsetting the status quo.

#### **Prior year adjustments relating to expenditure items should generally roll forward at the allowed cost of capital**

When a company is not permitted to recover its ultimate 'building block' revenue entitlement in full in year (e.g. because a proportion of remuneration comes later via the TIM or because it has to wait for a reopener), a company has to turn to investors to finance the mismatch between costs and revenues. The converse is also true when a company is permitted to collect more than its ultimate entitlement – i.e. the underlying investor capital requirement shrinks. Movements up and down in the investor capital base happen all the time in regulated industries for a myriad of reasons and it is illogical to single out prior year adjustments as a special case that somehow gives rise to smaller financing costs than all of the other calls that there can be on investors.

Instead, it is much more natural to treat regulated companies' capital requirements in a homogeneous way and to make provision for a required/avoided return that is in line with the cost of capital that applies generally across the regulated business.

### **There is no obvious rule for discretionary incentive payments**

The one category of prior year adjustment that does not fit naturally with this way of looking at things is the payouts from Ofgem-calibrated outcome delivery incentives (ODIs).

Rewards and penalties that flow from metrics like customer satisfaction, environmental scorecards or network asset risks are regulatory constructs. If incentives pay out in, say, year  $t + 2$  rather than year  $t$ , there is not a need for investor capital to bridge the timing difference between the award of a payment and receipt. A regulated company just has to wait patiently for the regulator's decision to come into effect.

There is not, therefore, the same justification in conceptual terms for rolling accrued penalties and rewards up at the cost of capital. Nor is it appropriate to think in terms of interest on new deposits or borrowings building up during the regulatory lag. Instead, there is an inherent fungibility and even circularity to the choices that a regulator has. Because the regulator chooses both the ODI calibration and the roll forward formula, it is perfectly reasonable for the regulator to fix on a prior year adjustment approach that works in terms of administrative simplicity and to then calibrate the ODIs with the prior knowledge that payments will roll forward at either a relatively high or relatively low (or possibly even zero) rate of interest.

I am therefore fairly ambivalent about the approach that Ofgem should take to these aspects of its RIIO-2 controls. Provided that Ofgem looks at the calibration of rewards/penalties and the interest rate as a package, it can exercise a degree of discretion and put the interest rate at a value of its choosing.

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