

INCENTIVE IMPLICATIONS OF OFGEM'S OUTPERFORMANCE WEDGE

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In March 2018 I jointly authored a report¹ for the UK Regulators Network (UKRN) on the cost of capital in regulatory reviews. There were a number of areas where I disagreed with my co-authors, Mason, Pickford and Wright (MPW). One of these areas of disagreement was their recommendation to force a tighter alignment between the allowed return and the return expected by investors, where the difference between the two is due to “aiming up” and the “informational wedge”. I was concerned that a poorly designed instrument to address the informational wedge could undermine incentives on operators to undertake their activities efficiently.

Subsequently, in their Final Determinations for ET, GT, GD² Ofgem has developed two practical instruments that each have their roots in the MPW recommendation: an “outperformance wedge” which is used to discount the headline cost of equity; and a “return adjustment mechanism” (RAM) that significantly limits returns on equity above a certain level.

In this note I consider whether or not the concerns I expressed in 2018 have been realised now that regulatory instruments have been practically developed. I conclude that those concerns remain, and that the outperformance wedge reflects my worst fears of how the MPW recommendations could be turned into practice: it is bad incentive design that has not been properly evaluated by Ofgem and carries unintended or ignored adverse consequences for consumers.

I first briefly recap on the original MPW recommendations and how they find expression in the outperformance wedge and the RAM. In the second part I review the outperformance wedge from an incentive perspective.

¹ Wright, Burns, Mason, Pickford, Estimating the cost of capital for implementation of price controls by UK Regulators <https://www.ukrn.org.uk/wp-content/uploads/2018/06/2018-CoE-Study.pdf>

² RIIO-2 Final Determinations - 08 December 2020

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THE RELEVANT MPW RECOMMENDATIONS AND THEIR TRANSPOSITION INTO OFGEM'S DECISION

MPW RECOMMENDATIONS

In the UKRN report, we defined a Regulatory Allowed Return (RAR, shortened by Ofgem to AR, which practitioners would recognise as the headline allowed cost of equity in a regulatory decision), and noted that this could differ from Regulatory Expected Returns (RER, shortened to ER by Ofgem) because investors can earn additional returns if the company beats its regulatory targets. We labelled this extra return the informational wedge because in the presence of full and complete information the regulator would be able to set targets at the efficient cost and output levels that the regulated firm could meet, but not beat. Instead though, both companies and regulators operate in an uncertain environment, and in an incentive-based regulatory system this creates the possibility that expected returns and allowed returns could diverge.

With this framework setting the context, MPW recommended that regulators:

- set a numerical target value for the information wedge that is incorporated into the allowable return calculation, and which is periodically revisited from one price control period to the next; and
- assemble a database of historic outperformance to enable them to make their best-informed forecast of the information wedge.

MPW make clear the intended effect of their recommendations: “the endpoint... should be to maintain a much tighter, and more transparent link between the returns regulated companies can expect to earn and our best estimates of their cost of capital.”

It is not the purpose of this note to comment upon the conceptual flaws that underpin the MPW recommendations. Those are set out in the UKRN report. This note is concerned with the practical application of those recommendations by Ofgem.

OFGEM'S DECISION

In coming to its Final Determinations for ET, GT, GD³, Ofgem has clearly taken MPW's recommendations to heart. The practical expression of their recommendations can be found in two of Ofgem's decisions:

- The outperformance wedge; and
- The Return Adjustment Mechanism (RAM).

THE OUTPERFORMANCE WEDGE

There is a clear link from MPW's recommendations to Ofgem's outperformance wedge. In developing the wedge, Ofgem has:

- developed a database of historical outperformance;

³ RIIO-2 Final Determinations - 08 December 2020

- used this data to inform an “outperformance wedge” set at 25bps to be used for the RIIO-2 period; and
- deducted this outperformance wedge from its estimate of the cost of equity.

In addition, Ofgem has added a further practical component to its approach that is relevant to my assessment below of the incentive properties of the outperformance wedge. This is the so-called ex-post adjustment mechanism, which has the effect of returning the outperformance wedge to each company should it fail to outperform by the 25 bps Ofgem anticipates.

THE RAM

Ofgem has implemented a symmetrical return adjustment mechanism with threshold levels of:

- 300bps either side of the baseline allowed return on equity, with an adjustment rate of 50% of returns above or below the relevant threshold (i.e. the firm only receives a half of the returns it would otherwise have earned above 300bps, or is only exposed to a half of the downside); and
- 400bps either side of the baseline allowed return on equity, with an adjustment rate of 90% of returns above or below the relevant threshold (i.e. the firm only receives 10% of the returns it would otherwise have earned above 400bps, or is only exposed to 10% of the downside).

This decision doesn't really represent what investors can expect to earn and so does not link RER and RAR as explicitly and as tightly as MPW appear to favour. However, the RAM does place a tightly defined limit on the maximum (and minimum) RER that investors can expect to earn, and so does follow the MPW recommendations in that respect.

THE REMAINDER OF THIS NOTE

In this note I shall focus on the outperformance wedge, though I shall make reference to the RAM where appropriate. This prioritisation is consistent with my conclusions in the UKRN report:

‘There are many mechanisms to ensure that profits lie within a socially acceptable range, but some of these mechanisms would be extremely detrimental to customers, whilst others would be much less so. The art of regulation is to promote incentives for efficiency for the long-term benefit of customers, whilst achieving a fair settlement in the shorter term with a minimum of disruption to the longer term goal.’

The outperformance wedge reflects my worst fears of how the MPW recommendations could be turned into practice: it is bad incentive design that has not been properly evaluated by Ofgem and carries unintended or ignored adverse consequences for consumers. In contrast, Ofgem's RAM is likely to be less distortionary, and represents a pragmatic limit on excess returns, where those higher returns could quite possibly undermine the legitimacy of the incentive-based arrangements themselves.

CRITIQUE OF OFGEM'S OUTPERFORMANCE WEDGE

In this section I first briefly explore the incentive properties of the wedge, before highlighting the important role that incentives have had in driving productivity growth in the energy network sectors. I then explore the sources of outperformance to illustrate that penalising outperformance has two

detriments: first, it undermines future innovation and efficiency to the detriment of consumers; and second, it is poorly directed in that regulatory effort should be focused on improving the way Ofgem sets targets.

THE INCENTIVE PROPERTIES OF THE OUTPERFORMANCE WEDGE⁴

Ofgem's outperformance wedge has two elements to it: the upfront deduction of 25 bps from allowed returns, where that deduction is based on historic performance data; and the intention to rebate that deduction if any given company fails to achieve that outperformance.

As far as the first element is concerned, the wedge is a mechanism that is recalibrated from one price control period to the next based upon the achieved performance of the companies. Its current calibration of 25bps reflects Ofgem's assessment of previous levels of outperformance, and it is reasonable to expect that the calibration at future price control reviews will reflect Ofgem's future assessments of that data as it reveals itself throughout RIIO-2 and beyond. Put simply, the greater the outperformance, the greater the likely future size of the wedge (and consequent deduction from the cost of equity).

The wedge therefore operates similarly to the well-known "ratchet effect" that was applied in UK price control reviews across many regulated businesses in the 1990s and 2000s. In simple terms, at those price control reviews, regulators would set the path of prices for the next five year period, and then use the revealed level of costs at the end of the period as the starting point for prices at the next price control review⁵. In this way, companies would receive up to 5 years of the profits of making an efficiency gain, after which the gain would be reflected in lower prices for the benefit of consumers. This distributional settlement also defines the incentive power of the regulatory regime: put simply, if a company knows that its current performance will determine its target next time prices are set, then this can undermine incentives to improve current performance. Given this well-known property of the ratchet, regulators have historically spent considerable time evaluating the appropriate balance between incentive power and the distributional settlement, resulting in an evolving treatment of the mechanism over time.

In the case of the outperformance wedge, no such assessment has been provided despite the fact it is clear that the marginal impact associated with the introduction of the wedge is negative for incentives and hence for productivity performance. Whilst the exact magnitude is obviously unknown (because it requires the evaluation of an unobservable counterfactual), it is clear from analysis by Frontier for the ENA that productivity would not have to fall by very much at all to make consumers worse off in net terms. Frontier found that if future annual productivity growth is reduced by only 3% (e.g. productivity growth is 1.26% p.a. rather than 1.3% p.a.), then this would make consumers worse off in net terms.

The second component of the wedge is particularly problematic. Ofgem intends to implement a licensee-specific ex-post adjustment mechanism (or backstop), whereby if outperformance at the licensee is less than 25 bps that licensee would receive a top-up allowance, up to 25 bps. In other words, Ofgem is creating a deadband where the effective marginal tax rate on productivity improvements is 100%. Now, it is possible that some companies would push through the deadband to earn greater returns, but it is also feasible that faced with the option of earning the baseline return on capital by opting for a "quiet life", others will

⁴ These properties are discussed in greater detail in Frontier's report for the ENA, Further analysis of Ofgem's proposal to adjust baseline allowed returns, September 2020.

⁵ See "Pipes and Wires: A report by the Comptroller and Auditor General, HC 723 Session 2001-2002: 10 April 2002" for a more detailed explanation of these mechanisms.

choose the quiet life. Once again, at the margin, it is an incentive-diminishing mechanism, with no assessment by Ofgem of its impact.

THE IMPORTANCE OF INCENTIVES, AND INCENTIVE DESIGN

The reason why the absence of any impact assessment by Ofgem matters is because clear and balanced incentives have proven to be an extremely important driver of customer benefits since privatisation.

The regulation of energy networks has evolved considerably since the early days of RPI-X regulation. But the two cornerstones of regulatory policy have not changed over those years, and indeed have been reinforced as the system of regulation has evolved⁶:

- stimulating significant dynamic efficiency improvements through a clear incentive-based system; and
- maintaining investor confidence in order to keep the WACC low (which also supports a credible incentive-based system).

The results have been remarkable and Ofgem's own research confirms that the productivity performance of the energy network sectors has outperformed the rest of the economy over the past 30 years⁷. This outcome would have been unimaginable 30 years ago, when the best that could be hoped for was that regulation could "hold the fort until competition arrives"⁸. The beneficiaries of this productivity performance have been both the companies (and their investors) and consumers, who have enjoyed real reductions in prices and enhanced service levels since privatisation.

Even if the challenges of the future were not so significant, the lessons of the past would surely suggest at least an evaluation of the wisdom of injecting these incentive diminishing mechanisms into network regulation.

That the future does hold considerable challenges (specifically the huge investment needed to achieve the decarbonisation of the economy, a challenge that the energy networks will be central to meeting), only reinforces the need to do so, as I discuss later. However, to motivate that point, it is first important to understand outperformance and its drivers.

WHAT IS OUTPERFORMANCE?

Outperformance arises when the company beats its targets. And this happens for two reasons: first, because the regulator does not have perfect information and foresight to set a price control based upon the efficiently incurred costs of the business; and second, because the regulator has also put in place incentives to encourage the company to achieve productivity growth in excess of what it assumed when setting the control. We discuss incentives first, and then target-setting.

⁶ In 2011 the Government reaffirmed the principles and commitments for effective economic regulation and emphasised the importance of a stable framework for the regulation of the network businesses that embraced these two cornerstones: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/31623/11-795-principles-foreconomic-regulation.pdf

⁷ Pollitt et al <https://www.ofgem.gov.uk/ofgem-publications/146010>

⁸ Report to the Secretary of State for Industry, 'Regulation of British Telecommunications' Profitability' by Stephen Littlechild, February 1983, para 4.11.

THE CRITICAL ROLE INCENTIVES PLAY IN REVEALING OUTPERFORMANCE

The second condition is often overlooked, but it is critical. Very little if any outperformance would arise if there were weak incentives to perform. In fact, as we have learnt from the experience of the US cost of service regulatory schemes, and the experience of state ownership and regulation of public utilities in the UK, quite often the incentives are to encourage gold plating and rent seeking.

What we have also observed is that when the regime is changed to a higher powered regulatory system this has created significant financial outperformance.

What this means in practice is that under a low-powered system, the benefits of not having to innovate or improve productivity are secured by the insiders in the business, in many various ways, most of which can be summarised by Sir John Hicks' maxim: "the best of all monopoly profits is a quiet life". Importantly, these benefits remain with the insiders indefinitely.

In contrast, under a higher-powered system of regulation, those insider rents are monetised as financial outperformance, which represent the innovation and efficiency initiatives that are now being undertaken that would otherwise have not been discovered and executed in a lower-powered incentive system. Importantly, once these rents are monetised, they become visible, and can be shared with consumers.

Ofgem's focus on the "outperformance" wedge therefore ignores the fact that if high powered incentives did not reveal outperformance, then the rents would simply be enjoyed by the insiders in a closed system, paid for by consumers. The experience of the pre and post privatisation period in the UK suggests that for all the political inconvenience of higher returns, consumers have been better off in an incentive-based system than in the low-powered system that preceded it⁹.

THE ROLE OF TARGET-SETTING IN DETERMINING OUTPERFORMANCE

Turning to the other condition for outperformance, it might be reasonable to ask why regulators don't simply set targets at the efficient levels of costs. This question naturally relates to the information deficit that the regulator faces.

In recent discourse, this deficit has been far too narrowly defined as an "information asymmetry" that is hampering the ability of the regulator to set a challenging price control. The discussion is not helped by the sense, conjured up by the phrase itself, of information deliberately withheld, or misrepresented by the company in efforts to thwart the regulator.

In practice, the information deficit faced by the regulator is considerably more nuanced than this caricature would suggest. We can identify four broad types of information faced by the regulator when setting a price control:

- 1 Full information common to all, requiring a rule, for example:
 - a. Asset lives to depreciate the RAB
 - b. Cost of debt index

⁹ See, for example, "A review of bringing energy home" An independent assessment for the ENA, Frontier Economics, 13 September 2019, which reviews the pre and post-privatisation performance of the public utilities.

- 2 (Accepted) full information, common to all, for example:
 - a. Rolling forward the RAB to a new starting value based on audited investment information reported under established regulatory accounting guidelines
- 3 Incomplete information, common to all, requiring an estimate to be developed from common data sources, for example:
 - a. Market risk premium
 - b. RPEs
- 4 The information relationship between the company and the regulator relating to future levels of the company's operating and investment expenditure:
 - a. Asymmetric information in favour of the company, at the time the price control is set
 - b. Incomplete information, common to both the company and the regulator, at the time the price control is set
 - c. New information that the company can access and use within the regulatory period, that the regulator must wait until the next price control review to utilise

What insights can we draw from this taxonomy?

First, outperformance can arise for reasons that have nothing to do with the information exchange between the company and regulator. For example, the Great Financial Crisis (GFC) unquestionably led to greater difficulty in forecasting the future path of the UK economy, and Ofgem (in line with the vast majority of other forecasters) understandably failed to predict well the future path for wage inflation (that underpinned the RPEs allowance).

Second, turning to the information deficit faced by the company and the regulator, it is clear that asymmetric information and missing information are both present in the evaluation of future levels of expenditure. In a rapidly changing policy and/or technological environment, such as that the energy sector is facing, both the regulator and the company are likely to be similarly ill-informed about the future levels of cost and/or output provision at the time the price control is set. However, the regulator can only set prices infrequently (every five years) on the basis of the information available to it at the time, whilst the company can re-optimize its plans whenever it chooses as new information comes to light. This is the information advantage possessed by the company, and it is critical that the regulator provides the company with sufficient incentive to exploit that information advantage and continually evolve plans that are innovative, efficient, effectively manage cost risk, and drive output provision at least cost. Without the spur to engage in the discovery process within a commercial framework there is no need for the company to do so, leading to higher costs than would otherwise be the case, to be borne by consumers.

At the same time, it would be expected that a well-established, expert regulator that has developed institutional expertise with effective powers of data capture and analysis should be able to address most of the elements of the asymmetry that exists within category 4a above through benchmarking, information revelation mechanisms and other instruments (together with its accumulated experience).

The current levels of outperformance in the energy networks are most likely due to inaccurate forecasts of common variables (such as RPEs) in combination with innovative discovery of the type that needs encouraging, and regulatory targets that were poorly set¹⁰.

Problematically, reducing the incentive power of the regime through mechanisms such as the outperformance wedge undermines innovative discovery - it does not solve the information asymmetry problem, and has the effect of undermining incentives for future productivity.

SUMMARY

The greatest successes of regulation have been when it has provided a stable commercial framework within which businesses can find innovative and efficient solutions to problems where previously these solutions were not imagined to have existed at all – by either the business or the regulator.

This has driven real price reductions and service improvements, and requires a stable and predictable approach to remuneration of both historic assets and ongoing performance; where good performance is encouraged through a credible and robust set of incentives that align the company's interests with the public interest.

The lessons of the past and the challenges the energy sector faces in future both strongly point to retaining strong incentives on the operators to find innovative ways to enable net zero at least cost, and for Ofgem to more effectively use the tools it has at its disposal in the setting of cost and output targets.

Ofgem has not evaluated the outperformance wedge from an incentive perspective; and its rather confused responses to the criticisms raised by stakeholders is no substitute for having done so. It is difficult therefore to avoid the conclusion that Ofgem believes that there is little or no incentive or behavioural consequence associated with the implementation of the wedge. This belief would be entirely inconsistent with the body of theory, evidence and regulatory practice that has built up over several decades.

The outperformance wedge is a distortionary piece of incentive design, that carries significant risks of unintended or ignored consequences to the detriment of consumers.

¹⁰ It is recognised that the competition for business plans introduced in RII0-1, allied with a reward structure for the quality of those plans, was a significant step to reduce the information asymmetry that Ofgem had been exposed to in the past. There is near universal agreement that the innovation brought forth much more disciplined business plans from the operators. Unfortunately, in the practical implementation of the new RII0 system, Ofgem miscalibrated the regime, embedding higher returns in the sector as a consequence.