Ofwat response to the provisional findings of the NATS En-route Limited (NERL) Price Determination

Summary

This note sets out our response to the CMA's provisional findings for the NERL price control determination. The CMA's provisional determination for NERL includes a number of reference points that we expect will be relevant to the current determinations the CMA is making for four water companies.[1]

The CMA's provisional findings and our response are published at a time of uncertainty in the financial markets resulting from the Covid-19 pandemic. Our comments on specific allowed return parameters in the following sections of this document therefore focus on the span of data considered by the CMA's draft determination.

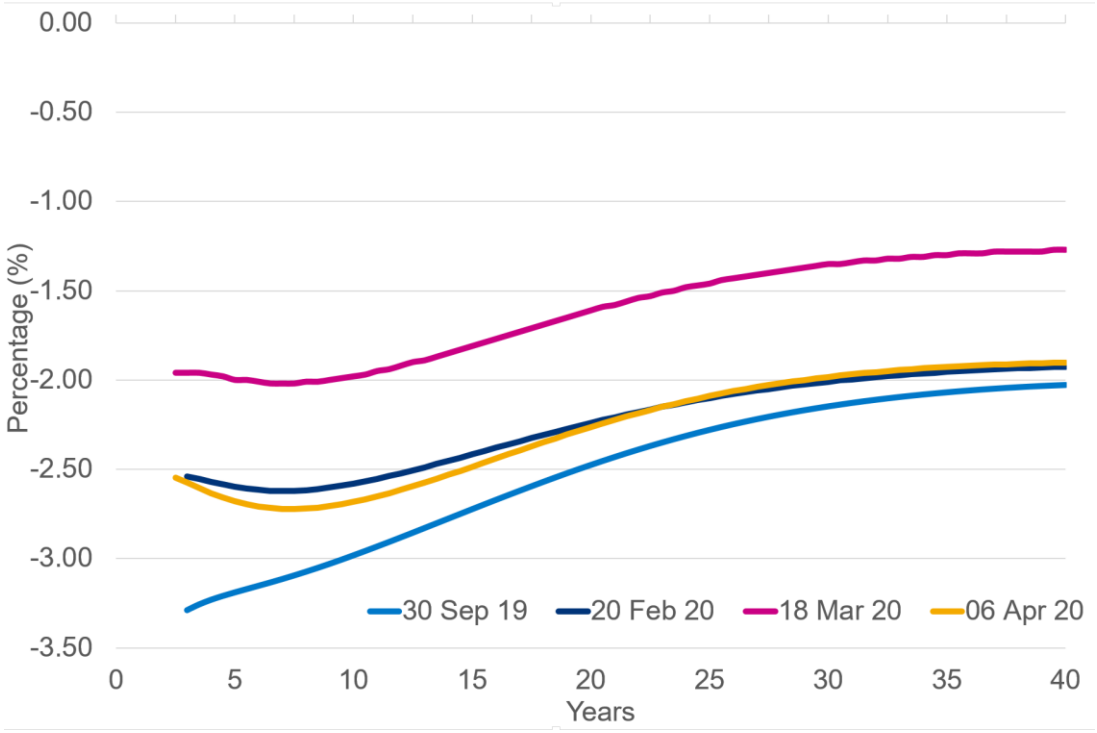
The impacts of Covid-19 on allowed return on capital parameters are uncertain, both in terms of duration and magnitude of effect. We note scenarios prepared by PwC which envision a temporary period of economic disruption of up to 18 months, which would be shorter and/or less severe if interventions (e.g. treatment drugs, vaccines, social distancing) are more successful in allowing a return to normality.[2] We consider it plausible that negative economic impacts could decrease as well as increase return on capital parameters, or that the overall impact may be muted – it is possible that downward pressure on some parameters on which the allowed return is calculated offset upward pressure on others.

The risk-free rate has broadly returned to levels seen in February 2020, at all points of the yield curve (Figure 1), despite the Debt Management Office revising upwards its volume of gilts to issue via auction to £45 billion in gilts in April – three times the previously planned amount.[3] We note also the weight the CMA has placed in its

[1] Four water companies – Anglian Water, Bristol Water, Northumbrian Water and Yorkshire Water have asked Ofwat to refer their price control determination to the CMA.
[2] PwC, 'Covid-19: UK Economic Update', 7 April 2020
[3] Institute for Fiscal Studies, 'For sale: £45 billion of gilts', 1 April 2020

provisional findings (and its past regulatory decisions) on the evidence drawn from equity returns over the long term. This may indicate that pre-outbreak data provides a reasonable basis for estimating the average required return over the course of the RP3 control period.

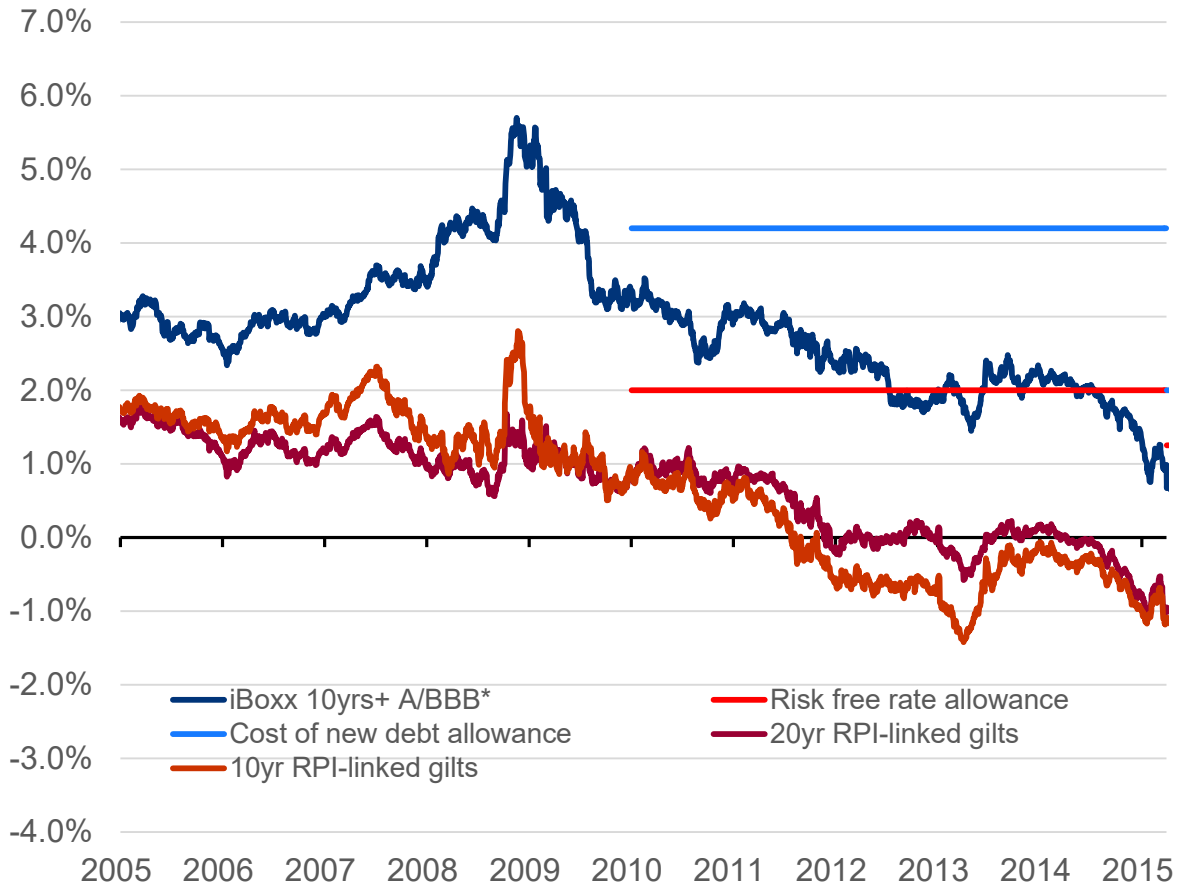
Figure 1 Evolution of the UK real gilt curves in response to Covid-19



Source: Ofwat analysis of Bank of England data

Our own experience of setting the allowed return at a period of significant market uncertainty (we set the allowed return for our 2009 price review in the depths of the credit crunch), is that there is a risk of setting the allowed return too high when adopting a cautious approach. Various observable WACC parameters which we set turned out to be much lower in practice (Figure 2). The impact of Covid-19 on expectations for future market returns may become clearer in the coming months, and so we expect to comment on these issues further in the context of the water appeals as the appeal process progresses.

Figure 2: 2009 price review allowances and outturn data



Source: Ofwat analysis of IHS Markit and Bank of England data

Allowed return

A key issue raised is the determination of the allowed return. There are a number of issues that are directly relevant to other regulated sectors including water and we welcome the CMA's comments. While there are some methodological differences to the assessment of market evidence compared with our recent determinations, these are matters of judgement; we support the approach the CMA has adopted overall. We discuss the areas of direct read across below.

Total market return

We welcome the CMA's assessment of the evidence on the calculation of the total market return, including its conclusion that using the Bank of England's historical CPI series to derive a real equity returns series is justified. Changes to the composition and measurement of RPI since it was introduced in 1947 have caused latter-day RPI to be structurally higher than in historic periods, due to the higher RPI 'formula

effect'. This means that unadjusted historical RPI-deflated returns are an unreliable guide to prospective RPI-deflated returns that investors require. We consider the CMA's conclusions on these issues provide a balanced assessment of the evidence. We also welcome the CMA's approach to focus on longer term holding periods for the calculation of the total market return, to ensure consistency with the approach to determining the risk-free rate and the cost of debt.

Risk free rate

We also welcome the CMA's assessment and approach to the calculation of the risk free rate. We agree with the CMA's decision to focus on the index linked gilt rates; we consider the balance of evidence suggests that setting the risk free rate on the basis of nominal gilt rates would over-remunerate investors who already benefit from inflation protection.

We consider the CMA's use of a 3-6 month trailing average of spot yields to inform its assumption to be defensible, although we preferred a relatively shorter averaging period of 1 month for our final determinations. Such relatively short averaging periods strike a balance between adopting an estimate which is sufficiently forward-looking, whilst limiting the impact of short-term volatility. Longer trailing average periods are more difficult to justify, as this would implicitly assume that the prevailing risk-free rate in 2020-25 will be more like its historical level than recent spot rates. Typically such a premise can be justified if there is evidence of a tendency towards mean reversion. However, this does not appear to be the case in historical data. Van den End (2011)[4] finds that long-term bond yields issued by German, US and Japanese governments can persistently deviate from their long-run average value with only weak statistical evidence of mean-reversion. And Brattle (2016)[5] in its advice to the European Union states: 'The best predictor of the future risk-free rate is the current yield. Taking a longer averaging period risks including old and out-of-date information that is not relevant to the future.' The use of a shorter trailing average period is observed in practical use by regulators – for instance the Australian Energy Regulator uses a trailing average of 20 to 60 consecutive business days for its estimate of the risk-free rate.[6]

[4] J.W. Van den End, 'Statistical evidence on the mean reversion of interest rates', DNB Working paper No. 284, March 2011
[5] Brattle Group, 'Review of approaches to estimate a reasonable rate of return for investments in telecoms networks in regulatory proceedings and options for EU harmonization', 2016, p43
[6] AER, 'Rate of return instrument: explanatory statement', December 2018, p16

Beta

The issues involved in estimating NERL's asset beta are quite different to those involved in estimating a water sector asset beta. This is not surprising, given the need to rely on foreign listed comparators and the different business risks and regulatory framework faced by NERL. NERL is more exposed to systematic risks than the water companies we regulate, and this is reflected in its relatively higher asset beta. We observe however that in both exercises, judgment must be used in deciding how much weight to place on different permutations of estimation window and sampling frequency of data.

The CMA's provisional decision reflects a slightly different methodological approach to our 2019 final determinations:

- **Length of estimation window:** Our decision focussed on 1, 2, and 5 year betas, while the CMA's provisional decision was based on 2 and 5 year betas.
- **Data frequency:** We used daily, weekly and monthly frequencies, while the CMA's uses daily and weekly.
- **Use of rolling averages:** Our determination was partially informed by considering the overall range and evolution of betas over the period January 2017 to September 2019. The CMA's assessment focussed on spot and rolling averages of 2 and 5 year daily weekly betas ranging from 1-5 years, thus encompassing data up to 10 years previous to the estimation date.

We acknowledge the existence of conflicting opinions in the academic and practitioner literature around the appropriate frequency and length of estimation window. This implies that there is no 'one-size-fits-all' approach, and that applying regulatory judgment is necessary, considering the particular characteristics of the sector concerned. We consider the following factors to be important to the choice of estimation window and frequency:

- **Sufficiently recent data:** an excessively long time horizon (eg one that spans multiple price control periods with different regulatory frameworks) includes old, probably obsolete market information and therefore increases the risk that the estimates obtained are not sufficiently forward looking.
- **Sufficient datapoints:** We observe that samples with too few datapoints (either due to a short estimation window or low frequency sampling) tend to be more exposed to statistical volatility and exhibit wider confidence intervals. This makes it harder to rely on such estimates as a guide to betas for the ensuing control period.

- **Frequency of trading:** Thin trading issues can cause a downwards bias in econometric estimates of beta at higher frequencies, though this is less likely for large-cap stocks with a free float.

We note the CMA adopts a range for its beta estimate, adopting a point estimate for the allowed return that implies the use of a beta in the middle of the range. We consider the CAA is best placed to comment on the comparability of the reference points, but we note that in water small (1dp) adjustments to beta can have a material impact on the allowed return on equity and customer bills.[7] We would therefore be cautious in taking account of beta estimates that might appear to be outliers in assessment of beta. We may comment on this issue futher in water appeals, depending on the approach the CMA chooses to adopt.

We note that the CMA adopted a lower level of notional gearing than that which was proposed by the CAA in its final determination. We share the CMA's concerns with a cost of capital calculation which is strictly increasing with the level of gearing, noting from our own sector that the decision of various companies to gear more highly than our notional assumption does not seem to support that a higher allowed return is required by more highly-geared companies; rather it might provide evidence that these companies face a lower actual cost of capital. We see the decision as having the clear advantage of being able to use the direct econometric estimate of equity beta in the CAPM allowed return on equity, given the similarity between the gearing of listed comparators and the notional company in the water sector.

Cost of debt

We note the CMA has chosen an allowance for issuance and liquidity costs that is higher than we have adopted in water. As the CMA has made clear, this is an allowance for NERL, and we do not consider the level of the allowance would be appropriate for a water company.

Long-term inflation assumption

We note that the CMA's provisional decision uses an RPI inflation assumption of 2.78%, based on HM Treasury's February average of independent forecasts. This

[7] In our model for final determinations a 1 basis point change in asset beta results in a 20 basis point change to the allowed return on equity.

forecast encompasses the years 2020-23. We consider that the marginal investor with the long-term (i.e. 10-20 year) investment horizon implied by the CMA's analysis for the risk-free rate and Total Market Return might reasonably be expected to consider inflationary prospects over a similar timeframe rather than the shorter period covered by HM Treasury publication. One way of reflecting this would be to make use of the Bank of England's CPI inflation target of 2.0%, uplifted for the Office for Budgetary Responsibility's assumption about the long-term RPI-CPI 'wedge'. This would provide a higher long term RPI assumption than assumed by the CMA.

Ofwat

April 2020