



# **A Response to Ofgem's Cost of Equity Estimates in the RIIO-ED1 Draft Determination**

**A Report for ENW, NPG, SPEN and SSEPD**

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## 1. Introduction & Summary

In this paper we review Ofgem's recent proposals on the cost of equity for the RIIO ED1 price control period.

### ***Ofgem's Proposals***

In its draft determination for RIIO ED1<sup>1</sup>, Ofgem proposes a cost of equity of 6% as set out in its cost of equity decision earlier this year. Ofgem's decision draws on the Competition Commission's (CC) decision for Northern Ireland Electricity (NIE) for the generic capital asset pricing model (CAPM) parameters, the risk-free rate (RFR of 1.5%) and the equity risk premium (ERP of 5.0%)<sup>2</sup>, while selecting an asset beta of 0.38 (below the CC's NIE estimate) and a debt beta of 0.1 (above the CC's NIE estimate).

We believe that Ofgem has made a number of errors in "translating" the CC's cost of equity decision for NIE across to the DNOs and in its overall cost of equity decision. We summarise these errors in the subsections below.

### ***Total Market Returns***

Ofgem draws on the CC's NIE decision on total market returns of 6.5%, which marked a departure from previous precedent where the CC had consistently used an estimate of real market returns of 7%.<sup>3</sup> The CC's main argument for lowering the market return from its own previous value of 7% appears to be that:

*"A forward-looking expectation of a return on the market of 7 per cent does not appear credible to us, given economic conditions observed since the credit crunch in 2008 and lowered expectations of returns."*<sup>4</sup>

In making the cost of equity decision for NIE, the CC therefore departed from previous regulatory precedent and put more weight on short run capital market evidence to reflect the global financial crisis and low interest rate environment.

However, the CC's use of short-run evidence is less relevant for what Ofgem should assume for RIIO-ED1. The RIIO-ED1 period **runs for a much longer period (2015-2023)** than NIE's regulatory period, which runs from 2013-2017, and which has already been running for 18 months.

The RIIO-ED1 price review period **starts 3 years later and finishes 6 years later** than NIE's, by which time the current exceptional period of low interest rates is unlikely to remain

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<sup>1</sup> Ofgem (July 2014, henceforth Ofgem RIIO-ED1 DD Finance Annex): "RIIO-ED1: Draft determinations for the slow-track electricity distribution companies, Financial Issues".

<sup>2</sup> CC NIE final determination (2014, henceforth CC NIE FD); Link: <https://www.gov.uk/cma-cases/northernireland-electricity-price-determination>.

<sup>3</sup> See e.g. CC reports on Heathrow & Gatwick (2007); Stansted (2008) and Bristol Water (2010).

<sup>4</sup> CC NIE FD, p 13-29. The CC also provides a number of other arguments. However, these were already known before the 2010 Bristol Water decision when the CC still concluded on a TMR value of 7%.

in place, with the market expecting the economy to return close to long-run normal conditions. Moreover, it is implausible to reduce the “margin for error” relative to the CC’s NIE decision when the regulatory period is longer and thus more uncertain with regard to actual outturn rates than the NIE RP.

These are strong arguments that Ofgem is not correct to “translate” the CC’s decision on TMR for NIE across to the DNOs, as there is little evidence that RIIO-ED1 will be characterised by the same economic conditions as the NIE regulatory period with any certainty. Instead, there is more merit in Ofgem applying previous CC TMR decisions of 7% across to the DNOs for RIIO-ED1 to reflect the expectation of more normal economic conditions and uncertainty around conditions in the distant future.

### ***Debt Beta***

Ofgem uses a debt beta of 0.1 for the DNOs which is higher than the CC’s assumption of 0.05 for NIE. Ofgem’s debt beta assumption of 0.1 for the DNOs is not explicitly justified but it appears to be based on the assumption that a higher gearing of 65% compared to NIE’s 45% gearing assumption warrants the use of a higher debt beta. At the same time Ofgem assumes that the DNOs are able to achieve a *better* credit rating (A/BBB) than NIE (BBB+). In practice this set of assumptions is flawed, as empirically companies with weaker credit ratings exhibit higher debt betas.<sup>5</sup>

It is therefore inconsistent for Ofgem to use both a higher credit rating *and* higher debt beta relative to the CC. To be consistent with CC precedent Ofgem has to assume a debt beta between 0 and 0.05 for the DNOs which (just correcting for this mistake) would lead to a cost of equity between 6.46% and 6.93%.

We also note other recent UK regulatory precedent on debt beta, such as Ofwat’s recent decision on debt beta for water companies of 0, is not consistent with Ofgem’s assumption of 0.1 for DNOs.

In summary, it is inconsistent for Ofgem to assume a higher debt beta for the DNOs than the CC’s assumption for NIE, while at the same time assuming a higher credit rating.

### ***Asset Beta***

Ofgem uses an asset beta estimate of 0.38 for the DNOs. This value is below the asset beta assumption of 0.4 used by the CC for NIE. However, in making its asset beta assumption of 0.4, the CC has concluded that NIE’s regulatory framework is more risky than the DNOs under **the pre RIIO 5-year regulatory framework**, noting that

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<sup>5</sup> Empirically debt costs react more strongly to changes in conditions the weaker the credit rating. By corollary bonds with a poor credit rating should have a higher debt beta as any cyclical shock has a stronger impact on the yield and thus price of debt (which is what the debt beta measures) than bonds with a strong rating.

*“Moody’s scores the regulatory regime one notch lower than that of GB reflecting that regulation is less well established.”<sup>6</sup>*

The CC’s asset beta for NIE therefore reflects the higher risks associated with a less tested framework. In this context it is worth noting that the RIIO framework is also less tested than the previous 5 year regulatory framework and has a number of characteristics that imply a higher beta, such as the fact that the new RIIO framework exhibits increased uncertainty for investors due its longer duration. In light of the risk-enhancing features of the RIIO framework relative to the earlier regime and the CC’s comment that its NIE estimate reflects a slight premium on the pre-RIIO beta, it is far from clear that Ofgem should conclude on an asset beta for a RIIO-DNO that is below the CC’s estimate for NIE.

### **Conclusion**

In light of the above Ofgem’s estimate of the cost of equity of 6.0% appears to reflect a misplaced direct translation of the CC’s NIE decision that fails to recognise:

- The significantly longer regulatory period compared to NIE and the uncertainty and expected risk-free rate trajectory associated with it;
- The impact that assuming a higher credit rating than the CC did for NIE has on the debt beta; and
- The impact that a new and untested framework has on asset beta.

In light of the above, the appropriate cost of equity for the RIIO-ED1 period obtained from a consistent translation of the CC decision that takes account of the specificities of the two cases lies upwards of 6.4%. By concluding on a cost of equity of 6.0%, Ofgem chooses an estimate that does not allow any margin for error (headroom) over the RIIO period, thereby not providing any buffer against under-recovery on other elements, e.g. the cost of debt.

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<sup>6</sup> CC NIE FD, p 13-37.

## 2. Total Market Returns

Ofgem applies the same estimate of TMR for the 2015-2023 RIIO-ED1 period that the CC applied to the January 2013 to October 2017 NIE regulatory period. It also affirms its decision to follow the CC in using more forward-looking evidence in determining the appropriate CoE.<sup>7</sup> In applying the CC's unadjusted estimate, Ofgem ignores that the RIIO-ED1 regulatory period (RP) runs for six more years than NIE's, instead essentially assuming that the current low interest rate environment will continue unabated for another decade. This assumption:

- Ignores that conditions over the RIIO period are expected to be significantly closer to "normal" than for the NIE RP; and
- Implies that – despite the fact the RIIO-ED 1 period is substantially longer and thus prospects are more uncertain - there is a significantly smaller "margin for error" in Ofgem's TMR estimates should rates rise faster than expected.

Ofgem's TMR decision for the DNOs therefore significantly reduces the available "margin for error" to account for the potential for rising interest rates, and a return to more normal economic conditions.

### 2.1. Market conditions can be expected to move closer to "normal" over the length of the RIIO period

The CC's NIE decision marked a departure from previous precedent where it had consistently used an estimate of real market returns of 7%.<sup>8</sup> Alongside a number of points already known to the CC in 2010 (e.g. DMS' 2007 analysis of the repeatability of past performance and the presence of unexpected events in historic market data), when it set the Bristol Water (BRL) decision, the CC's main argument for lowering the market return from its own previous value of 7% appears to be that:

*"A forward-looking expectation of a return on the market of 7 per cent does not appear credible to us, given economic conditions observed since the credit crunch in 2008 and lowered expectations of returns."*<sup>9</sup>

It is far from clear that the experience of the last six years of quite exceptional market conditions since 2008 provides a better guide to the RIIO-ED1 2015-2023 period than longer run economic data that the CC's has always previously relied upon.

The lower yields on government bonds are in large part due to the asset purchase programmes undertaken by central banks in recent years (so-called quantitative easing, QE), which have significantly increased demand for bonds with no offsetting change in supply (as many government are trying to reduce borrowing). This has led to a fundamental (but temporary) shift in the supply and demand balance, and thus a drop in yields. Indeed

<sup>7</sup> Ofgem RIIO-ED1 DD Finance Annex, p 7.

<sup>8</sup> See e.g. CC reports on Heathrow & Gatwick (2007); Stansted (2008) and Bristol Water (2010).

<sup>9</sup> CC NIE FD, p 13-29.



Breedon, Chadha and Waters (2012) find that QE has affected the average price of bonds even for those not bought by central banks as investors from the asset classes that central banks are buying get squeezed into other asset classes<sup>10</sup> with an aggregate effect of 100bps and more on government bond yields.<sup>11</sup>

Since central banks cannot continue to expand their balance sheets with asset purchase programmes forever and will eventually have to unwind their positions there are strong indications that the supply-demand imbalance that has driven the market in recent years, will re-balance and may even reverse once central banks become net sellers of assets.

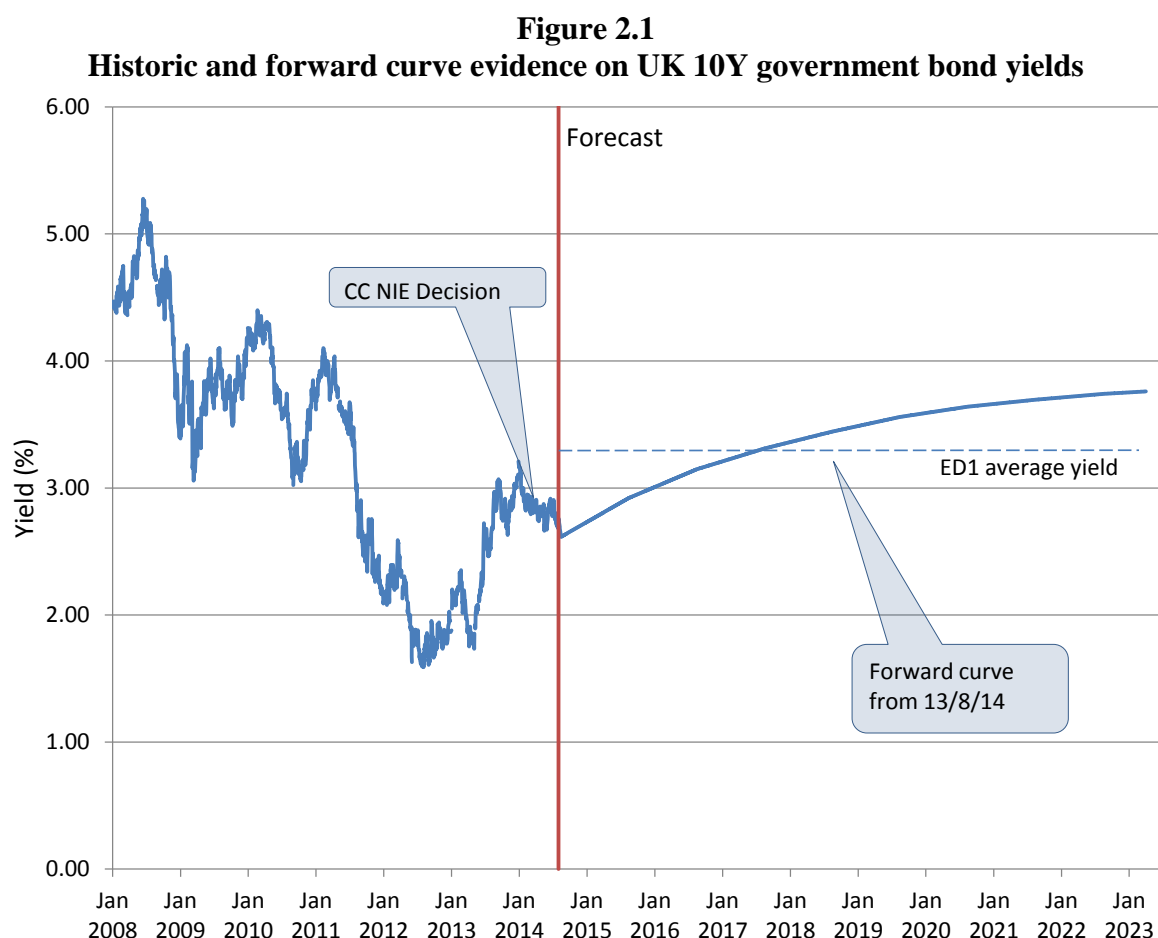
The current expectation is for the Bank of England to “slowly and gradually” return interest rates to more “normal” conditions over the next few years. However, even if rates rise in line with Governor Carney’s promised path “*in line with what the market expects*”<sup>12</sup> (i.e. what is implied by forward curves) the average risk-free rate over the RIIO-ED1 period will be nearly 100bps higher than current rates and more in line with pre-QE normal (albeit post-Lehman) rates (cf. Figure 2.1). Accordingly the average expected interest rate over the period is significantly above the forecast for the NIE RP suggested at the time of the CC NIE decision (cf. Figure 2.3).

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<sup>10</sup> Breedon, F, Chadha, J, Waters, A (2012) “The financial market impact of UK quantitative easing” *Oxford Review of Economic Policy*, Oxford University Press, Vol 28(4), pp 288-289.

<sup>11</sup> See e.g. Joyce et al (2011): The Financial Market Impact of Quantitative Easing in the United Kingdom, *International Journal of Central Banking* & Jarrow, R, Li, H (2012) “The Impact of Quantitative Easing on the U.S. Term Structure of Interest Rates” *Johnson School Research Paper No. 2*, p 4.

<sup>12</sup> Bank of England press release (13 Aug 2014) quoted on <http://www.bbc.co.uk/news/business-28773867>.



Source: NERA analysis of Bloomberg data

## 2.2. Significant Uncertainty around Interest Rates over RIIO-ED1 requires “margin for error” in the TMR allowance

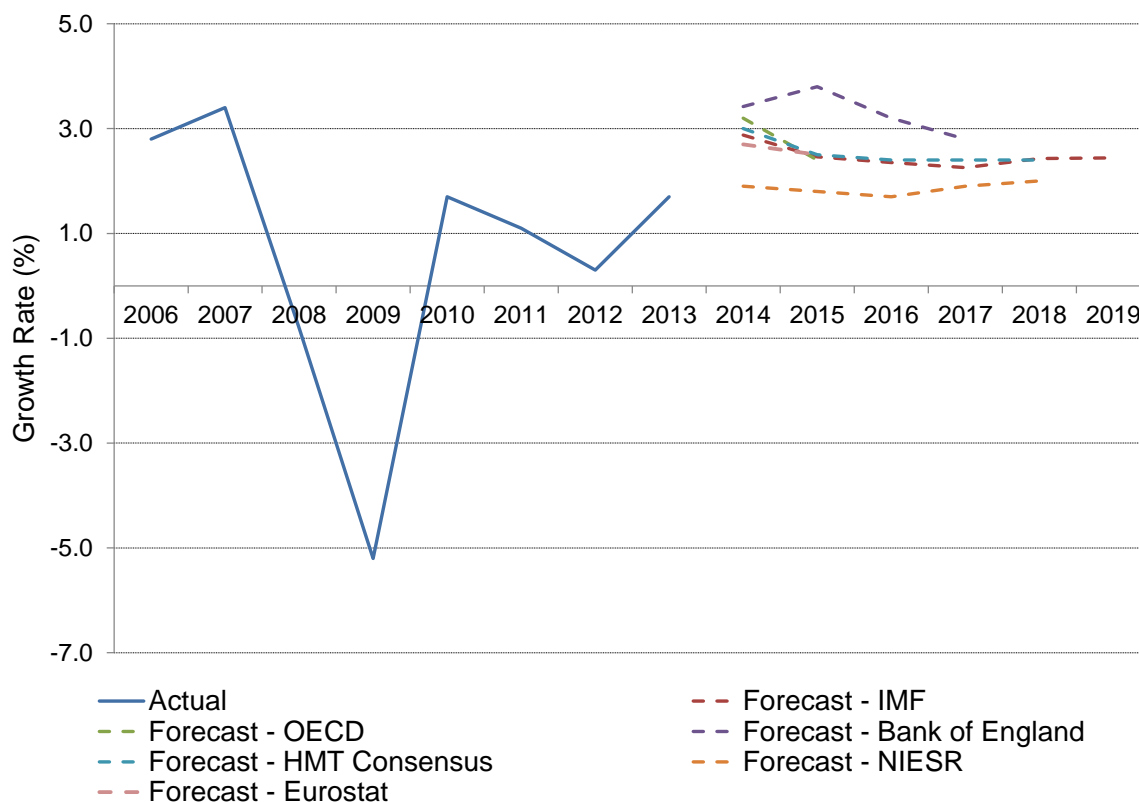
It is worth noting that there is a significant amount of volatility and uncertainty associated with the predictions implied by forward curves and that there is a history of the market reacting strongly to indications that low interest rates / QE are withdrawn more quickly than anticipated. E.g. in 2013 statements from the Federal Reserve sparked swings in bond yields in the US and the UK, as the market reacted sharply to new information<sup>13</sup> suggesting current gilt yields do not fully price in the effect of quantitative easing unwinding over RIIO-ED1.

Further such spikes cannot be ruled out; especially as macro indicators now indicate a relatively stable trajectory for the British economy over the upcoming years, which may lead the BoE to conclude that QE can be withdrawn more quickly than originally anticipated. Figure 2.2 presents central GDP forecasts for a number of institutions, most of them

<sup>13</sup> The FT (20 July 2013) reported that following the Federal Reserve’s plan to scale back its asset purchase programme, US 10-year government yields spiked to 2.47%, the highest in almost two years. Source: <http://www.ft.com/cms/s/0/d2139184-d950-11e2-84fa-00144feab7de.html#axzz2WlpvLHb5>

forecasting a return to trend levels of GDP growth of around 2% p.a. by the end of 2014 with a stable outlook over the early part of the RIIO-ED1 period.

**Figure 2.2**  
**UK Real GDP growth & forecasts (2006-2019)**



Source: Eurostat, IMF, OECD, Bank of England, HMT, NIESR, ECB. Note: As we write this report, reference forecasts institutions do not publish forecasts beyond 2019

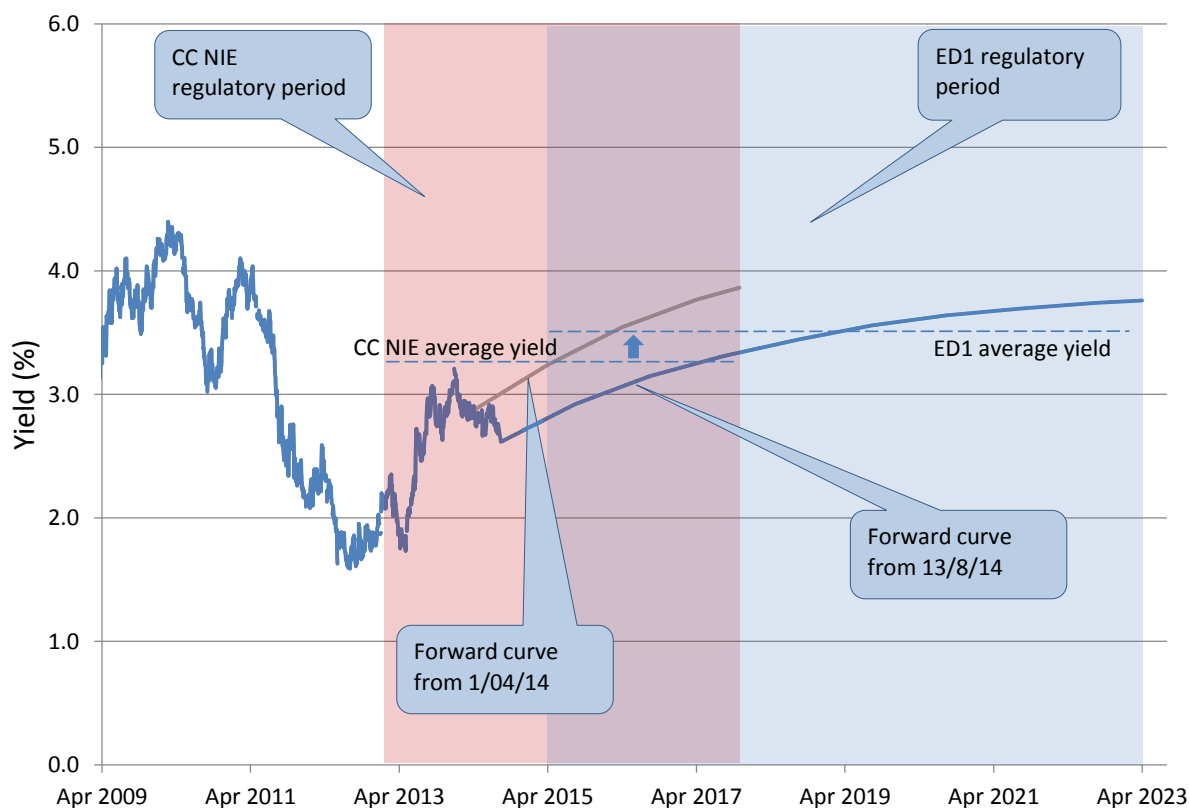
In light of the uncertainty surrounding the future path of rates embodied in forward curves, it is justified for the CC's NIE decision to recognise the need for including "margin for error" in its TMR estimate in light of uncertainty about future rates and QE in particular. The CC states that:

*"... we considered that in adopting a range for the RFR of 1 to 1.5 per cent, which is considerably above rates on long-duration index-linked debt (of approximately 0 per cent), we were adequately allowing for the possibility that rates might rise during the remainder of RP5."*<sup>14</sup>

Figure 2.3 shows that the "margin for error" allowed by Ofgem's TMR is about 25 bps lower than the one the CC considered appropriate for NIE in its final determination.

<sup>14</sup> CC NIE FD, p 13-25, emphasis added.

**Figure 2.3**  
**Development of UK gilt yields from 2009 to 2023**

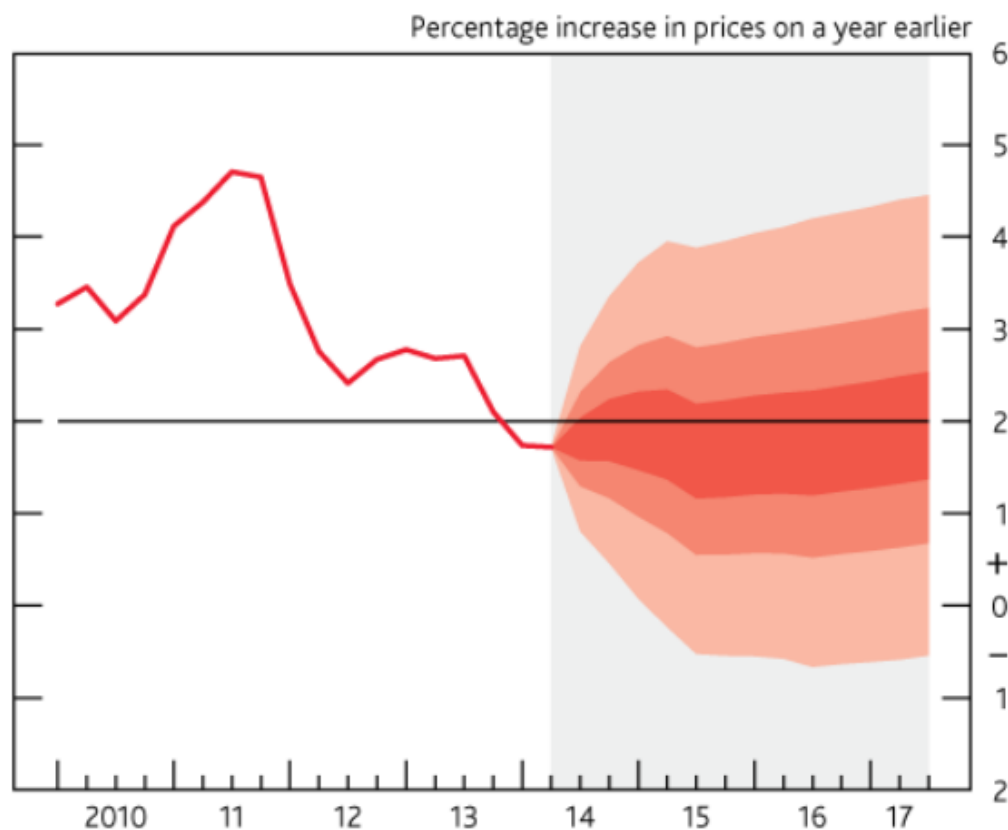


Source: Bloomberg, Bank of England, NERA calculation

Using a smaller “margin for error” for the RIIO-ED1 decision relative to the NIE decision does appear implausible given that the RIIO-ED1 period will finish more than eight years from now while the end of the NIE RP was less than even the full 5-year RP away when the CC made its decision.

It is generally accepted that the need for “margin for error” increases as forecasts become more uncertain over time. Figure 2.4 illustrates the effect of compounding risk over a longer period increasing uncertainty using the example of the BoE’s inflation forecast for 2014 to 2018,

**Figure 2.4**  
**The compound impact of the length of**  
**forecasting horizon on forecast variability**



Source: Bank of England Inflation report

**2.3. Summary: It would be inconsistent for the CMA to include a lower margin of error for the longer and more uncertain RIIO period than for the NIE decision**

In summary, both the baseline forecast and the uncertainty around it have increased due to the significantly longer forecasting period. Both aspects cast significant doubt on whether the CC's assertion that a "*forward-looking expectation of a return on the market of 7 per cent does not appear credible (...), given economic conditions observed since the credit crunch in 2008 and lowered expectations of returns*" can be maintained in light of the absence of robust evidence on financial market conditions nearly 10 years into the future.

In light of the above Ofgem's estimate of the TMR of 6.5% appears to reflect a misplaced direct translation of the CC's NIE decision. If the CMA were to confirm this decision it would incorporate a substantially lower margin for error for a much longer and therefore more uncertain period than what it faced for the NIE decision. Such a move would be inconsistent with its own recognition of the need to provide "appropriate allowance for the possibility that rates rise from current low levels over the regulatory period."

### 3. Debt Beta

Ofgem uses a debt beta of 0.1 for the DNOs which is higher than the CC's assumption of 0.05 for NIE. Ofgem's debt beta assumption of 0.1 for the DNOs is not explicitly justified but it appears to be based on the assumption that a higher gearing of 65% compared to NIE's 45% gearing assumption warrants the use of a higher debt beta. At the same time Ofgem assumes that the DNOs are able to achieve a *better* credit rating (A/BBB) than NIE (BBB+). In practice this set of assumptions is flawed, as empirically companies with weaker credit ratings exhibit higher debt betas.<sup>15</sup>

It is therefore inconsistent for Ofgem to use both a higher credit rating *and* higher debt beta relative to the CC. To be consistent with CC precedent Ofgem has to assume a debt beta between 0 and 0.05 for the DNOs which (just correcting for this mistake) would lead to a cost of equity between 6.46% and 6.93%.

We also note other recent UK regulatory precedent on debt beta, such as Ofwat's recent decision on debt beta for water companies of 0, is not consistent with Ofgem's assumption of 0.1 for DNOs.

#### 3.1. Ofgem's debt beta is inconsistent with the CC's latest decisions

In recent years the CC has made two full decisions regarding regulated utilities. In its decision for Bristol Water in 2010 the CC used a debt beta of 0.1 in conjunction with a credit rating of BBB<sup>16</sup> while for its NIE decision the CC reduced its debt beta to 0.05 while targeting a credit rating of BBB+.<sup>17</sup>

**Table 3.1**  
Recent debt beta decisions by the CC

CC Decision	Date	Debt Beta	Rating
Bristol Water	Feb 10	0.1	BBB
Northern Ireland Electric	Apr 14	0.05	BBB+

*Source: CC NIE final decision; CC BW final decision; NERA calculation*

Ofgem's debt beta assumption of 0.1 for the DNOs, combined with a credit rating of A/BBB, is not consistent with the above precedent. Empirically, a higher credit is associated with a lower debt beta assumption.

<sup>15</sup> Empirically debt costs react more strongly to changes in conditions the weaker the credit rating. By corollary bonds with a poor credit rating should have a higher debt beta as any cyclical shock has a stronger impact on the yield and thus price of debt (which is what the debt beta measures) than bonds with a strong rating.

<sup>16</sup> Competition Commission (August 2010): Bristol Water – Final determination.

<sup>17</sup> CC NIE FD; The CC motivated its reduction in the debt beta with NIE's lower gearing, compared to Bristol Water (45% versus 60%). However, there is also evidence, presented below, suggesting that the debt beta is influenced by the default risk and subsequently by the rating.

Table 3.2 shows that the impact of a one-notch change in rating leads to a stronger debt premium impact the weaker the initial rating.

**Table 3.2**  
**Debt premia demanded by investors at different credit ratings**

<b>Rating</b>	<b>Yield</b>	<b>Difference to lower rating</b>	<b>Difference to lower rating</b>
	<b>%</b>	<b>bps</b>	<b>%</b>
A	3.52	10.84	2.99
A-	3.63	21.84	5.67
BBB+	3.85		

*Source: Bloomberg; NERA calculation; based on US Dollar denominated industrial bond yields, averaged over the period from 01/08/13 to 31/07/14. No disaggregated data available for GBP debt.*

This non-linear (and asymmetric) change in the debt premium implies that the value of the debt of a utility with lower credit rating is more exposed to systematic risk than a company with higher credit rating, which is equivalent to the former having a higher debt beta.

For example, consider two utilities with the same capital structure and under the same regulatory regime (suggesting a very similar systematic risk structure) but with differences in operating costs (affecting the FFO/debt ratio, one of Moody's indicators for financial health).<sup>18</sup> This would lead to two very similar companies with potentially different credit ratings (say e.g. A- and BBB+). If those two firms were affected by the same positive shock large enough to improve their credit rating by one notch,<sup>19</sup> their financing costs would change to a different degree according to Table 3.1. Firm A's costs would decrease by about 11 bps or 3%, while firm B's cost would decrease by 22 bps or 6%.

By corollary, their exposure to systematic market risk (measured as the debt beta) varies inversely with the credit rating.<sup>20</sup> Consequently, one would expect to observe a lower debt beta for companies with a higher credit rating. In light of the above it would be inconsistent for the CMA to conclude on a debt beta any higher than 0.05 for an A/BBB rated DNO. There are two arguments to suggest that even a debt beta of 0.05 would be inconsistent with the NIE decision as:

<sup>18</sup> Interest coverage ratio is one of the financial key factors considered by Moody's; see Moody's' rating methodology.

<sup>19</sup> We note that within the investment grade category Moody's rating methodology for utilities assumes an almost linear relationship between the score on sub-rating categories and the overall credit rating and hence that the systematic shock would have the same one notch effect on both companies.

<sup>20</sup> We note that not all of the non-linear relationship between rating and debt costs has to be due to systematic risk (and some may be due to differences in idiosyncratic risk) but that at least the empirics support that there is at least a certain asymmetry in how systematic risks affect companies at different rating grades implying an inverse relationship between debt beta and credit rating.

- The DNOs' notional rating is above (A/BBB v's BBB+ = half a notch better) than the one assumed for NIE; and
- NIE is also a significantly smaller company than the average DNO, something that is generally viewed as credit negative by debt investors and rating agencies.

In light of the above Ofgem's estimate of the debt beta appears to reflect a misplaced adjustment to CC's NIE decision.

### 3.2. Ofgem's debt beta is inconsistent with other British regulatory decisions

Furthermore, from the below, it is also apparent that Ofgem's decision on the debt beta is not in line with regulatory practice. Table 3.3 shows the decisions of various British regulators regarding debt beta and their corresponding credit ratings. It is apparent that the regulators of other pure network utilities (NIE and the water companies) have set lower debt betas than the regulators for aviation and telecom, which face comparatively higher systematic risks.

**Table 3.3**  
**British Regulatory Decisions on Debt Beta and Credit Rating**

Decision	Regulator	Date	Debt Beta	Rating	Asset Beta
PR14 Draft	Ofwat	Jan 14	0	A/BBB	0.3
CC NIE	CC	Apr 14	0.05	BBB+	0.4
GAL	CAA	Apr 14	0.1	BBB+	0.56
HAL	CAA	Apr 14	0.1	A-	0.5
FAMR	Ofcom	Jun 14	0.1	BBB	0.5
NERL	CAA	Jul 14	0.1	A-	0.49

*Source: Regulatory documents, NERA analysis*

The above suggests that the debt beta for pure network companies is generally viewed as lower than for regulated companies facing some demand risk, in line with the higher asset beta of the latter being allocated to both debt and equity rather than equity alone, in line with the standard formula for the asset beta.

$$\beta_A = \beta_E * \frac{E}{V} + \beta_D * \frac{D}{V}$$

It is noteworthy that Ofgem is out of line with other UK regulatory precedent in choosing amongst the highest debt betas while selecting the second lowest asset beta.

### 3.3. Summary: It would be inconsistent for the CMA to accept Ofgem's debt beta / rating pairing

In light of the above it would be implausible for the CMA to accept Ofgem's numbers, which (inconsistently) imply both a higher debt beta and a higher rating than the CC's recent determination for NIE. Moreover, Ofgem's figures do appear to be out of line with other UK regulatory precedent in selecting the joint highest debt beta but combining it with the second lowest asset beta.



A consistent range for the debt beta for a DNO rated A/BBB is between 0 and a maximum of 0.05. Adjusting the debt beta in this way implies a range for the equity beta between 0.99 and 1.09, in turn implying a cost of equity of between 6.46% and 6.93%.

Finally, we note that unlike what is implied by Ofgem in its DD<sup>21</sup> there is no offsetting effect of a lower debt beta *assumption* on the *actual* cost of debt. While theoretically the cost of debt would fall in the presence of a lower debt beta (for a given asset beta), Ofgem's estimate of the cost of DNOs' debt was never based on a debt beta assumption. Instead DNO's actual cost of debt costs can be observed in the market with observed data incorporating whatever is the true debt beta for DNOs. Ofgem changing its *estimate* of the debt beta will change its estimate of the (unobservable) cost of equity but there is no reason for it to change *actual* (observable) debt costs on which the cost of debt allowance can be based.

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<sup>21</sup> Ofgem RIIO-ED1 DD Finance Annex, p 6.

## 4. Asset Beta

Unlike for TMR Ofgem chooses to digress from CC precedent in selecting an asset beta (0.38) that is lower than the one chosen by the CC (0.4). The CC's estimate was derived from a range for the asset beta from 0.24 to 0.42 that it estimated for listed British utilities.

In developing its final range the CC noted that NIE's financial risk was broadly comparable to that of the British DNOs under the pre RIIO 5-year regulatory framework and that NIE therefore should have a similar asset beta.

*These are regulated by Ofwat and Ofgem under regulatory frameworks that are well established and well understood by investors. We think the regulatory framework applying to NIE is similar to that of Ofgem in many respects, particularly to that applying pre-RIIO, and we note the findings of First Economics in this respect<sup>22</sup>*

However, the CC also acknowledged that the Northern Irish regulatory system was somewhat more risky and unstable than the British pre-RIIO framework, with Moody's evaluating it at one notch below the pre-RIIO framework:

*However, we also note that Moody's scores the regulatory regime one notch lower than that of GB reflecting that regulation is less well established.<sup>23</sup>*

The CC therefore chose to set NIE's asset beta at the top of its narrowed range from 0.35 to 0.4. In concluding on this range for an electricity T&DNO, the CC selects beta estimates significantly above those implied by the financeability study prepared by E.CA and imrecon for Ofgem in 2012.<sup>24</sup>

It is likely that the CMA would come to similar conclusions to the CC, given that out of the five listed comparator firms that E.CA and imrecon use three are water and sewerage companies (operating under broadly stable frameworks), which the CC has previously classified as lower risk when setting a lower asset beta for them as part of its BRL decision (0.22 to 0.32 incl. a debt beta of 0.1).<sup>25</sup> It is therefore likely not to feel bound by their beta estimates when estimating the beta for an electricity distribution company.

In addition, the CC calculates an asset beta of 0.43 for SSE (one of the two remaining companies) in its NIE decision, which is above the range it chooses to use. This leaves only one data point (National Grid) from the E.CA and imrecon study, incidentally a company with no electricity DNO subsidiaries in the UK. It is therefore far from clear that the CC's decision contains any headroom on beta.

According to the CC's NIE decision its asset beta range reflects the higher risks associated with an untested framework; something that Ofgem fails to do in using a lower asset beta

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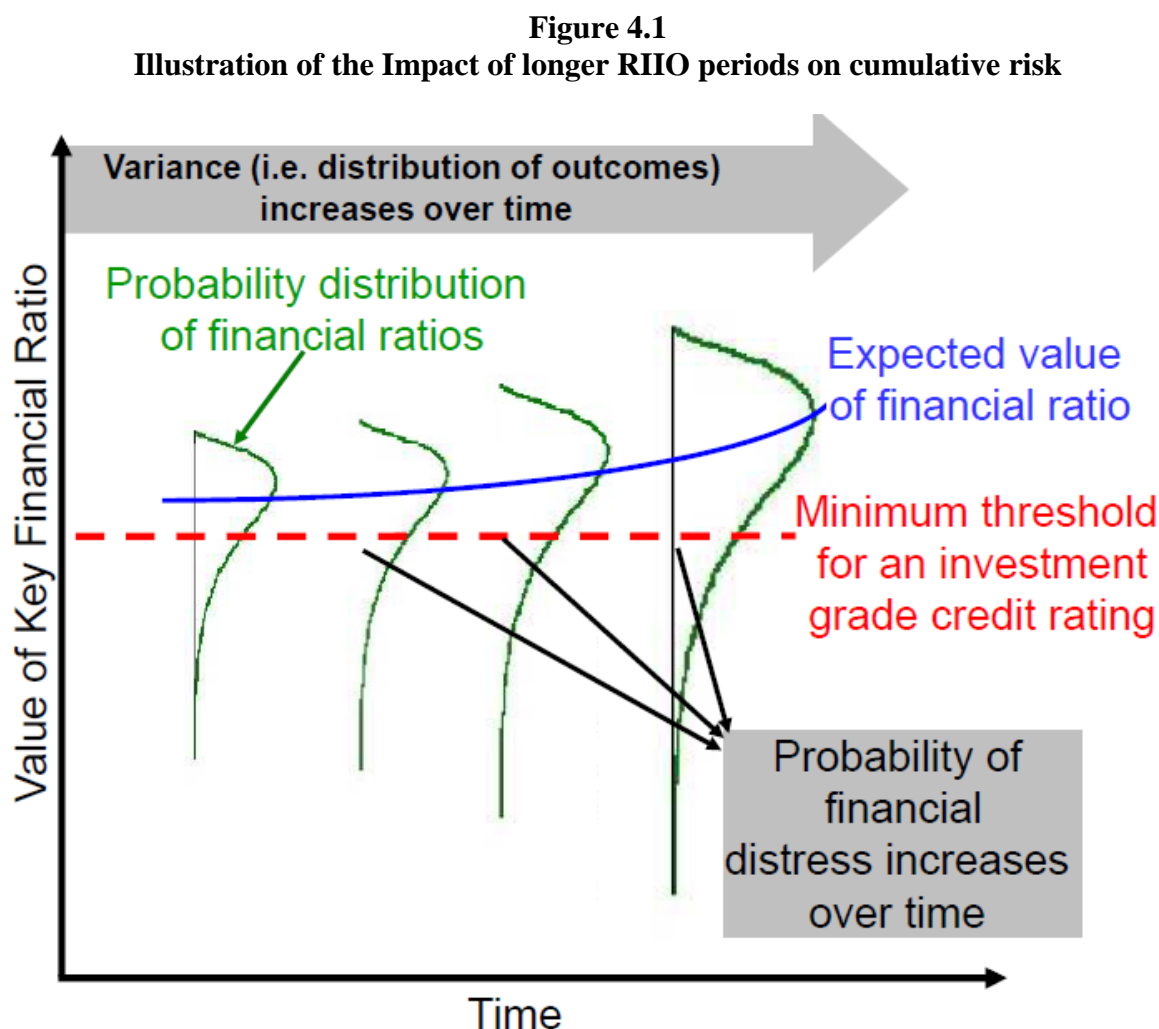
<sup>22</sup> CC NIE FD, para 13.179ff.

<sup>23</sup> CC NIE FD, *ibid*.

<sup>24</sup> Imrecon and ECA (Nov 2012): Financeability study, submitted to Ofgem.

<sup>25</sup> Competition Commission (Aug 2010): Bristol Water – Final Decision, Annex 6, p N42.

despite the fact that RIIO also remains a largely untested system. E.g. the new RIIO framework exhibits increased uncertainty for investors due its longer duration. The longer duration of the RIIO framework restricts the scope to adjust for changing market conditions. As shown in Figure 4.1 it thus increases the cumulative risk during the regulatory period.



Source: NERA Illustration

This is especially relevant today in a situation where markets exhibit increased volatility and uncertainty of when and how the impact of exceptional circumstances like quantitative easing and very low interest rates will recede. Combined with extended asset lives delaying cash recovery longer regulatory periods have increased the perceived risk for equity investors at least. While the major rating agencies have not adjusted their view of the riskiness of DNO debt<sup>26</sup>, a number of equity analysts have highlighted additional risks arising from the RIIO framework for equity holders. E.g. Merrill Lynch writes:

*“... although the upper range of Ofgem’s range would represent a 50bps premium [relative to DPCR5], there may be debate about whether this is sufficient to reflect*

<sup>26</sup> See e.g. Moody’s (2013): UK Gas Distribution Networks: Transition to RIIO Is Credit Neutral.

*the risks associated with a longer control period (now 8 years) and changes to asset lives”<sup>27</sup>*

thereby highlighting the risks to equity investors. In light of the risk-enhancing features of the RIIO framework and the CC’s comment that its NIE estimate reflects a premium on the pre-RIIO beta, it is far from clear that the CMA would conclude on an asset beta for a RIIO-DNO that is below its NIE estimate.

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<sup>27</sup> BoA-Merrill Lynch (2010): The rocky road to RIIO.

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