



# **Response to Ofgem's consultation on its methodology for assessing the equity market return for the purpose of setting RIIO price controls**

9 January 2013

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## 1. Introduction

On 22 November 2013 Ofgem published its 'Assessment of RIIO-ED1 business plans and fast-tracking' letter and associated documents. In its publication Ofgem stated that it would consult on its methodology for assessing the equity market return in the light of the position taken by the Competition Commission (CC) in its provisional determination for Northern Ireland Electricity (NIE) published on 12 November 2013. As part of this provisional decision the CC departed from its long-standing practice of estimating the range for total market returns (TMR) with a focus on long-run averages and instead chose to narrow the range referring to more "forward-looking" and current evidence.

Ofgem's approach to TMR has consistently been based on a long-term assessment of historical data. Recognising there is considerable methodological and judgemental uncertainty in assessing contemporary market evidence, Ofgem has considered that history gives a better and a more objective basis for a longer-term forward-looking view. This has been broadly consistent with other regulators' practice and with the recommendations of a 2003 study commissioned by the economic regulators (Smithers report).

In its provisional determination for NIE, the CC sets out a different approach to estimating TMR. The CC's approach gives greater weight to contemporary market evidence. The CC, or its successor the Competition and Markets Authority, is the appeal body for the RIIO-ED1 settlements.

Given that last few years have seen a serious global financial crisis, and unprecedented reaction from policy makers in terms of monetary policy measures such as Quantitative Easing (QE), we seriously doubt that this is the right time for regulators to be making a change to established methodologies for estimating the WACC, especially when there is a complete absence of academic support for the arguments that have been put forwards by the Competition Commission. We strongly advocate that more research is needed and/or a longer time series of data in more "normal" market conditions to justify a change in methodology.

Ofgem asks a number of questions for consultation with a view to assessing whether it should change its approach to estimating the equity market return. These are:

1. *A direct translation of the Competition Commission's estimates to DNO cost of equity allowances*
  - Do you agree with our direct translation of the CC's equity market return estimate to DNO cost of equity allowances?
2. *Implications for risk*
  - Can you provide evidence on the impact of giving greater weight to contemporary market evidence on perceived systematic and regulatory risk?
3. *Financing issues*
  - Do you think changing our methodology for the equity market return would impact on interest costs for DNOs? If so, how would this need to be accommodated in our approach to the financial package or the regulatory package more widely?

4. *Investment incentives*

- How do you consider that the choice of methodology for determining the appropriate equity market return impacts on investment incentives? Is there any evidence that you can provide?

5. *Eight-year RIIO price control period*

- To what extent do you think the merits of the alternative approaches to the assessment of the equity market return are affected by the eight-year RIIO control period?

We discuss these questions in turn in the subsequent chapters.

## 2. A Direct Translation of the CC Decision

*Do you agree with our direct translation of the CC's equity market return estimate to DNO cost of equity allowances?*

We do not consider the CC's reasons for lowering its estimate of TMR in its provisional determination for NIE to be directly applicable to the (much longer) RIIO-ED 1 period for which Ofgem has to estimate TMR. We therefore disagree with the concept of a "direct translation" of the CC's estimate.

Our view is driven by the following four considerations:

- First, even if we agreed with the CC's provisional decision on NIE, different time frames for the NIE price review (2012-17) and the RIIO ED1 price review (2015-2023) would mean the CC's provisional decision is not directly applicable to RIIO ED1. For example, averaged over the respective periods from today to 2017 (applicable for NIE) and 2015 to 2023 (applicable for DNOs) the average difference in expected risk-free rate for RIIO-ED1 and the NIE RP is in excess of 50bps.
- Second, and perhaps more importantly, we do not agree with the CC's logic that there is good recent evidence to change the established UK regulatory methodology of using long term historical data to estimate equity returns. The CC's argument (para 13.144 (b)) that a decline in the RFR should correspond to "lower (equity) returns" is not supported by any new academic evidence and is completely contrary to the work of academics such as Smithers (2006) on whom the Competition Commission and Ofgem have previously relied on.<sup>1</sup>
- Third, we believe that the CC have used contemporary evidence on the RFR for their estimate of NIE's cost of equity but they have not used contemporary evidence on the ERP. For example, they have ignored Bloomberg and Bank of England estimates of the ERP based on forecast dividend growth rates, but have instead relied on estimates of the ERP by e.g. Fama and French (2002) and DMS (2013) which are largely based on long run historical data.
- Fourth, we think it would be inappropriate to translate the CC's equity market return estimate across to DNOs without looking at other differences between the regulatory frameworks and overall WACC allowances. For example, the DNOs are subject to a cost of debt indexation mechanism which is more risky than a pass through of embedded debt for NIE. The CC's beta allowance for NIE is also higher than Ofgem's beta allowances for energy networks. A direct translation of the CC's estimate to RIIO-ED1 would lead to inconsistency in the risk-return balance across the sectors that Ofgem regulates.

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<sup>1</sup> Smithers (2006): "Report on the Cost of Capital"; available at <https://www.ofgem.gov.uk/ofgem-publications/56022/15576-smithersco.pdf>

## 2.1. Different Time Frames Mean the CC's Decision is Not Directly Applicable to RIIO

In the NIE provisional determination the CC lowered its estimate of the range for total market returns (TMR) to 5% to 6.5%. This compares with a previous estimate of 5% to 7% used e.g. in the Bristol Water price determination. The CC's main arguments for the change are reproduced below:

*“The interpretation of the evidence on market returns remains subject to considerable uncertainty. The CC has said in recent regulatory inquiries that 7 per cent is an upper limit for the expected market return, based on the approximate historical average realized return for short holding periods. We think that it may be appropriate to move away from this upper limit based on historical realized returns and place greater reliance on forward-looking estimates which tend to support an upper limit of 6.5 per cent. We note the following points in support of setting an upper limit for the market return of 6.5 per cent:*

- *(a) We consider that the return on the market is a more stable parameter than the ERP. However, it remains the case that it exhibits considerable volatility and cannot therefore be regarded as fixed over time.*
- *(b) We consider that there is logic to the proposition that a long-term decline in RFRs, as we discuss above, should correspond with an increased demand for equities and thus increased prices and lower returns.*
- *(c) We note research conducted by DMS suggesting a clear relationship between real interest rates and real returns on equities and bonds in the subsequent five-year period.*
- *(d) 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 and lowered expectations of returns.”<sup>2</sup>*

The CC's reasons for lowering the top end of its estimate of total market returns are mostly based on considerations about current “forward looking” market data, e.g. points (a), (c) and (d) in the CC explanation either explicitly refer to current conditions / volatility or a five-year period beyond these. We note that five years from now the RIIO-ED1 period will not even be past its half-way point.

Ofgem will therefore need to assess whether these “forward looking” considerations, which reflect the current period of low interest rates following the Global Financial Crisis (GFC) will also hold for the RIIO-ED1 period, which ends in 2023. **We note that the RIIO-ED1 period ends six years later than the end of the NIE price control period.** Ofgem will

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<sup>2</sup> Competition Commission (2013): “Northern Ireland Electricity Ltd Price Determination”, para. 13.144.



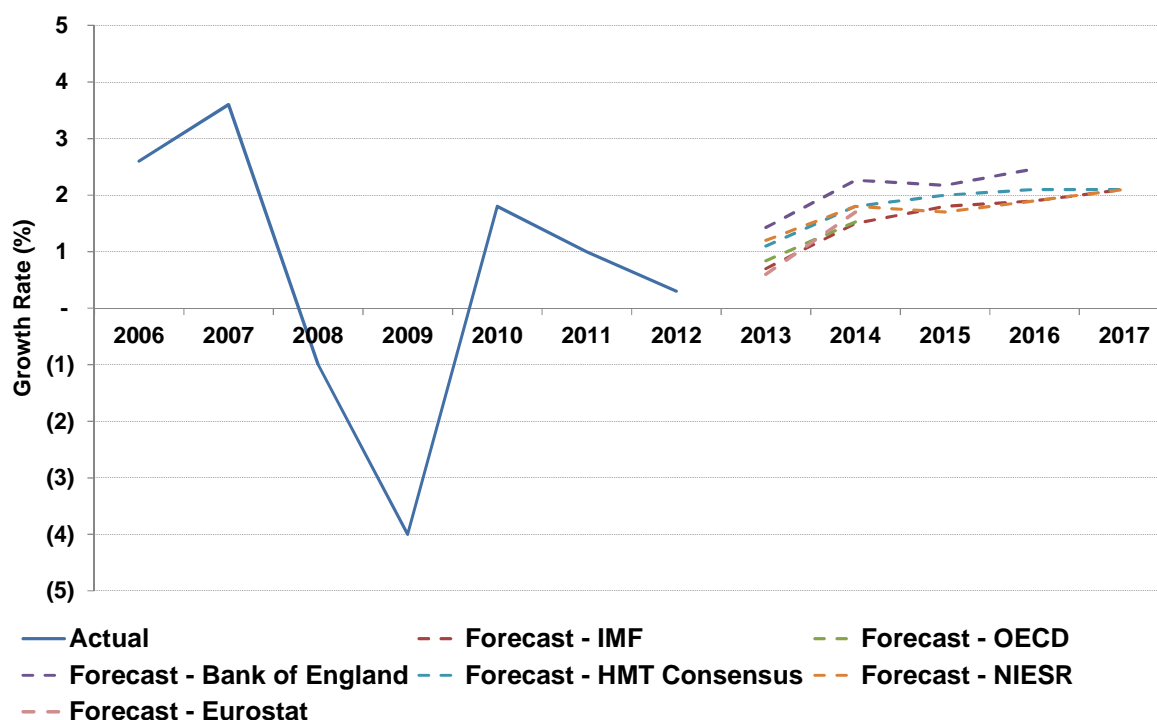
need to take a view on the likely financing conditions that will prevail over the RIIO-ED1 period, which may be very different from current conditions. It is far from clear that the current market conditions of low interest rates and expansive monetary policy will still be in place for the majority of RIIO-ED1.

E.g. we note that the available indicators actually predict a significant change in macroeconomic and financial conditions over the next 10 years, casting doubt on the assumption that expected market returns over the RIIO-ED1 period are best described by current exceptionally low returns.

Figure 2.1 shows GDP growth for the UK economy is expected to normalise at a level of around 2.0%, significantly above most “current” forecasts for this year and more in line with pre-crisis average growth rates.

It is also worth noting that macro-economic forecasts do not typically extend to the majority of the RIIO-ED1 period.

**Figure 2.1**  
**GDP Growth Forecasts for the UK Economy**



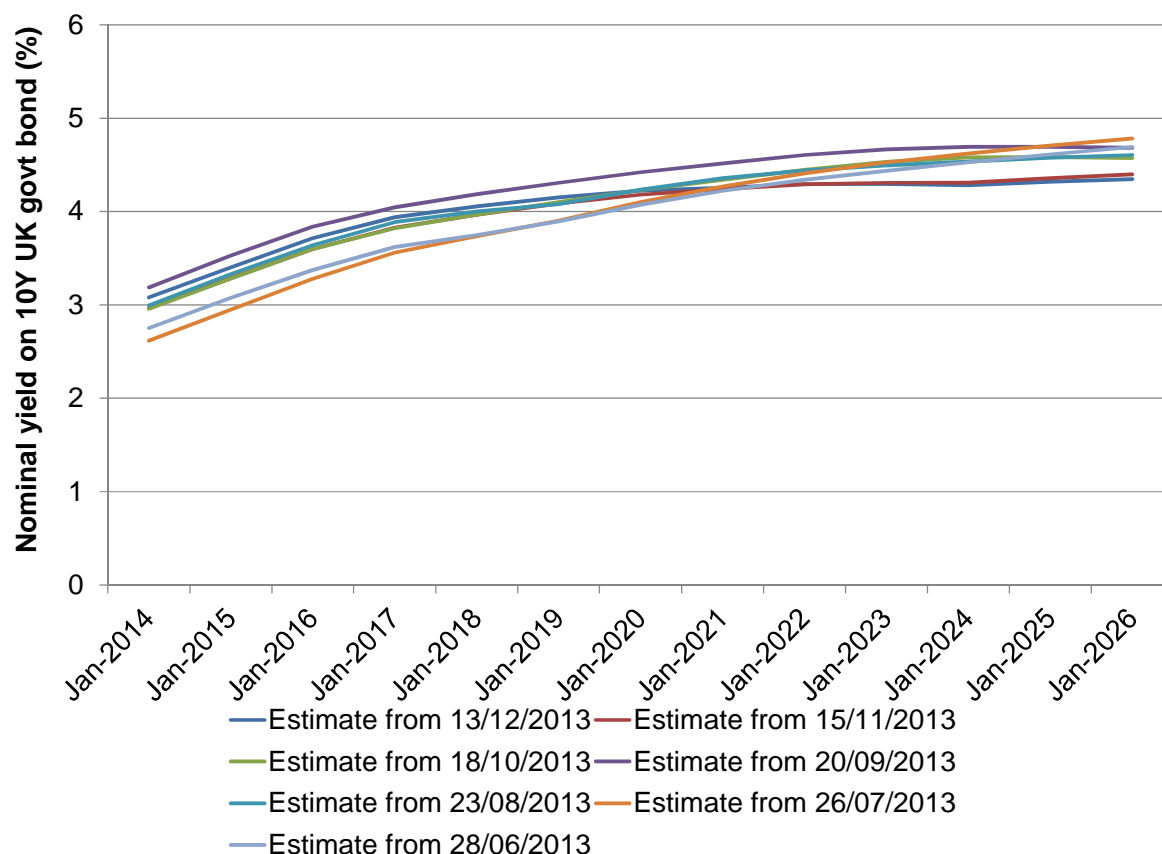
Source: Eurostat, IMF, OECD, Bank of England, HMT, NIESR, ECB.

We also observe a strongly upward-sloping forward curve for UK nominal gilts (shown in Figure 2.2) suggesting that the current situation of very low government bond yields is expected to come to an end with very low further downside potential and high upside potential.

Depending on which cut-off date is used the difference between the risk-free rate expected to be prevailing on 1 March 2023 when the RIIO-ED1 price control is going to expire and the forecast rate for 1 March 2014, i.e. close to today is between 121 and 191 bps. Averaged

over the respective periods from today to 2017 and 2015 to 2023 respectively the average difference in expected risk-free rate for RIIO-ED1 and the NIE RP is in excess of 50bps or nearly 20% of the risk-free rate expected to prevail over the NIE RP.

**Figure 2.2**  
**Forward Curve on UK 10Y Government Bonds**



Source: NERA analysis of Bloomberg data.

The above considerations suggest that the CC's points (c) and (d) may not be applicable for RIIO-ED1 because of the expected significant increase in bond yields early in the RIIO-ED1 period suggesting **it is far from clear that the currently observed low yield environment will prevail during the relevant period.**

We also note that the theoretical literature shows that total equity market returns (equity risk premium + risk free rate) have been generally quite stable over a long period of time.<sup>3</sup> In this context, the recent period of low interest rates should be regarded as an exception and we believe that there is little evidence that equity investors have permanently lowered their expectations of returns from both risk-free and risky assets as the CC asserts above in (b):

<sup>3</sup> See e.g. Smithers and Co (2003): "A Study into Certain Aspects of the Cost of Capital for Regulated Utilities in the U.K., A report commissioned by the U.K. economic regulators and the Office of Fair Trading", Bollerslev, T. and Zhou, H. (2006): "Volatility puzzles: a simple framework for gauging return-volatility regressions", *Journal of Econometrics.*; Cochrane, J. in Mehra, R., (2008): "Handbook of the Equity Risk Premium".

*“We consider that there is logic to the proposition that a long-term decline in RFRs, as we discuss above, should correspond with an increased demand for equities and thus increased prices and lower returns.”*

We do not think that there is good evidence to support this statement especially when central banks have not yet fully withdrawn their asset purchase programmes.<sup>4</sup>

### **Limited Macro-Economic Forecasts for RIIO-ED1 period**

We further note that it is generally much harder to forecast over longer horizons, e.g. HMT inflation forecasts are only available for four years, analyst forecasts of dividends for between three and five years and most macro indicators are also available for a forecast period of five years at most. Given the significantly more limited availability of forecast data for the duration of the RIIO-ED1 period, it is much harder for Ofgem to ascertain an unbiased forecast of expected returns during the RIIO-ED1 period. As Dimson, Marsh and Staunton (2013) point out:

*“for forecasting the long-run equity premium, it is hard to improve on extrapolation from the longest history that is available...”<sup>5</sup>*

The above statement casts significant doubt on Ofgem’s ability to predict expected equity market returns for RIIO-ED1 any better than by using the long-run historic average. This finding puts into question the applicability of the CC’s argument (a).

A further point to bear in mind for Ofgem is that the cost of debt indexation mechanism is not a perfect pass-through mechanism of debt costs. In the current situation where debt costs are likely to increase the cost of debt index provides only partial protection against the impact of rising yields on debt costs (albeit more than a flat allowance). This risk is far more significant for RIIO-ED1 than NIE, which will have a chance to re-set its debt allowance in 2017, six years earlier than the DNOs. **Any under-recovery on the cost of new debt is borne by the shareholder through the equity return**, thus making it doubly important for Ofgem to allow for an appropriate return on equity.

In summary, for the RIIO-ED1 period which is very different from the NIE price control period, we do not see solid justification for moving away from previous Ofgem and CC practice of relying on long-run market returns and selecting a point estimate of around 7% for total market returns.

## **2.2. A Number of Methodological Issues Mean the CC’s Decision May Not be Sustainable**

We also see a number of questionable methodological choices and further issues with the CC’s provisional decision that have also been picked up upon and heavily criticised by

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<sup>4</sup> E.g. Reuters (18 Dec 2013): Fed cuts bond buying in first step away from historic stimulus.

<sup>5</sup> Dimson, Marsh and Staunton (2013): “*Credit Suisse Global Investment Returns Sourcebook 2013*”, p.38.

investors responding to the CC's provisional decision. E.g. Hastings Infrastructure Fund stated:

*“In our opinion as an equity investor this determination if finalized would appear to introduce a new level of uncertainty into UK regulatory practice.”*<sup>6</sup>

The CC may therefore have to adjust its final estimate to correct some of these issues suggesting that Ofgem should not adjust its own methodology based on a provisional decision that may yet be adjusted. The main methodological issues that we (and various investors) see are:

- Inconsistency with previous regulatory methodologies introducing additional instability;
- The CC's combination of forward-looking methods (DGM) with historic dividend growth rates is internally inconsistent and overlooks other market evidence such as Bank of England data<sup>7</sup>; and
- The CC's argument that *“the long-term decline in RFRs (...) should correspond with an increased demand for equities and thus increased prices and lower returns”* is far from proven.

We discuss these in turn.

**Instability with previous regulatory methodologies:** we do not agree with the CC's logic that there is good recent evidence to change the established UK regulatory methodology of using long term historical data to estimate equity returns.

The CC's argument (para 13.144 (b)) that a decline in the RFR should correspond to “lower (equity) returns” is not supported by any new academic evidence and is completely contrary to the work of academics such as Smithers (2006) on whom the Competition Commission and Ofgem have previously relied on.

The CC's new approach removes the original logic for using TMR on the basis of its stability and predictability, even though Smithers recognised that TMR were not totally stable but for regulatory purposes best approximated by an *assumption* of stable returns<sup>8</sup>, a finding the CC fails to discuss.

**The CC's use of historic dividend growth rates is inconsistent with “forward-looking” evidence:** The CC combines forward-looking methods with historic dividend growth rates, which is internally inconsistent when the aim is to derive a forward-looking estimate.

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<sup>6</sup> Hastings (2013): “Northern Ireland Electricity Price Control Review (RP5) (2012-2017) – Hastings Fund Management Submission in Response to Provisional Determination”, p.2

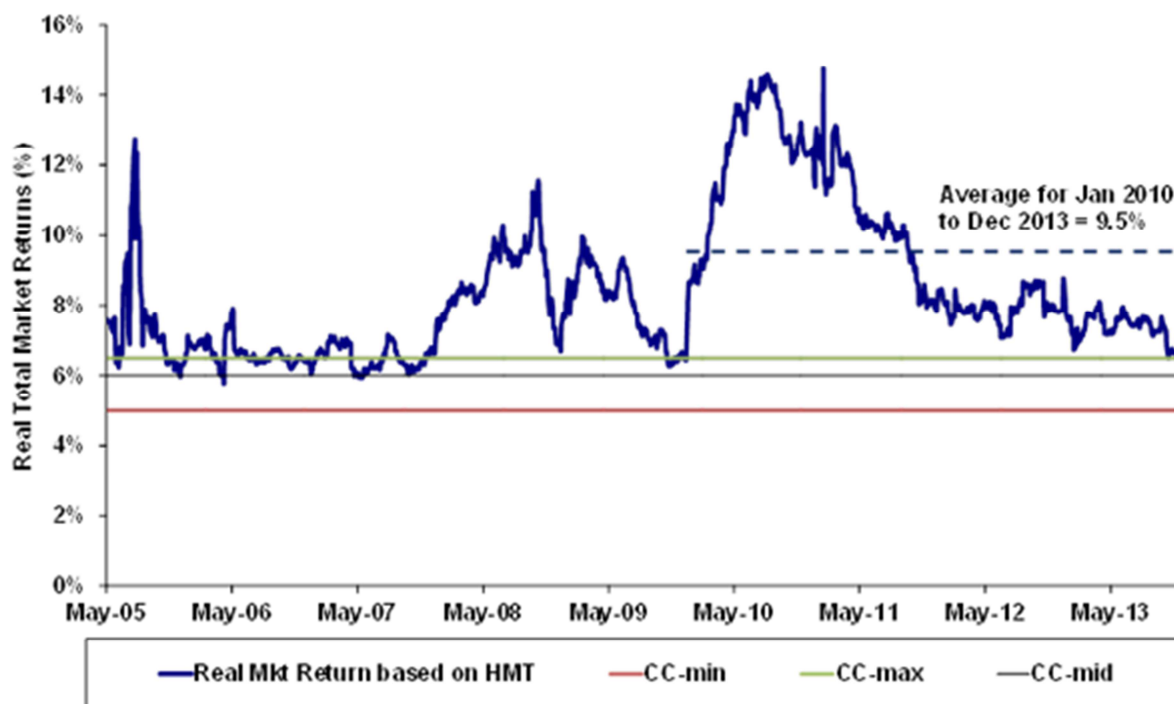
<sup>7</sup> Bank of England (2013): “Financial Stability Report 6/2013” and “Financial Stability Report 11/2013”

<sup>8</sup> Smithers and Co (2003): “A Study into Certain Aspects of the Cost of Capital for Regulated Utilities in the U.K., A report commissioned by the U.K. economic regulators and the Office of Fair Trading”, p.49.  
*“Given our preferred strategy of fixing on an estimate of the equity return, any higher (or lower) desired figure for the safe rate would be precisely offset by a lower (or higher) equity premium, thus leaving the central estimate of the cost of equity capital unaffected.”*

Models that consistently use forward-looking projections of dividend growth rates, such as the one produced by Bloomberg show significantly higher TMR than the 6% mid-point used by the CC for NIE (see Figure 2.3). NIE’s response to the CC consultation quotes a number of other papers that also confirm a significantly higher current required rate of return.<sup>9</sup> Figure 2.3 shows that after spiking in 2010/2011, Bloomberg’s estimate of required market returns has returned to levels more in line with the top end of the CC’s previous range at around 6.75%, while at no point since the beginning of the financial crisis has purely forward-looking data supported the CC’s current central estimate.

If the CC wants to rely on recent evidence of the RFR for the cost of equity, then there is a good argument that Bloomberg is the most established source for recent contemporary evidence on the ERP and TMR. Based on the last four years of data, Bloomberg evidence on TMR shows an average level of 9.5%, way above the CC’s estimate of 6%.

**Figure 2.3**  
**Bloomberg Estimates of Real Market Returns**



Source: NERA analysis of Bloomberg and HMT data and CC decision.

We note the CC provisional determination has considered implied equity risk premium calculated by the Bank of England until 2010.<sup>10</sup> As shown in Figure 2.4, evidence from the 2013 Bank of England study<sup>11</sup> suggests the ERP is significantly above the CC’s implied

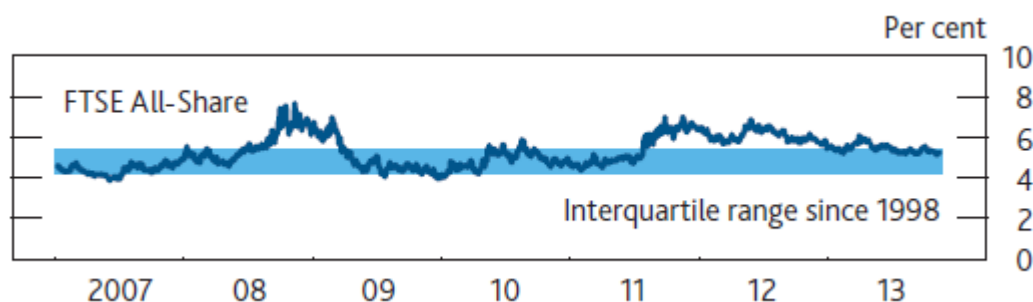
<sup>9</sup> Northern Ireland Electricity (2013): “Response to the Competition Commission’s Provisional Determination”.

<sup>10</sup> Competition Commission (2013): “Northern Ireland Electricity Ltd Price Determination”, para. 13.138.

<sup>11</sup> Bank of England (2013): “Financial Stability Report 11/2013”.

estimate of the ERP. In fact for much of the period from mid-2011 to the end of 2013 the ERP alone is towards the top end of the CC's revised TMR range from 5.0% to 6.5% calling into question the viability of the CC's assumptions even at zero interest rate levels.

**Figure 2.4**  
**BoE Estimate of the ERP**



Source: NERA adaptation of BoE 2013 data.

Instead of using Bloomberg and Bank of England estimates of the ERP based on forecast dividend growth rates, the CC have instead relied on estimates of the ERP by e.g. Fama and French (2002) and DMS (2013) which are largely based on long run historical data. This is completely inconsistent.

**Sustainability of the decline in RFRs:** The CC's assertion about the link between the falling RFR and equity returns is not backed up by any substantial evidence and fails to consider alternative explanations. While a clear driver for the lower risk-free rates observed since the start of the financial crisis has been the purchase of financial assets by central banks, this has been in response to higher risks observed in the financial markets and a desire to stave off financial recession. In this context the CC does not discuss more up-to-date Bank of England research that shows that the ERP has been well above its long-term average for the post-2008 period (albeit decreasing slightly recently), which offsets the lower risk free rates over this period.<sup>12</sup> Further, it is far from clear whether lower risk-free rates will be sustainable throughout RIIO-ED1 when central banks are expected to withdraw their asset purchase programmes, which will reduce excess demand for assets.<sup>13</sup>

In summary, we do not agree with the CC's logic that there is good recent evidence to change the established UK regulatory methodology of using long term historical data to estimate equity returns. The historical data approach based on DMS (2013) suggests a real total market return estimate above 7%, consistent with Ofgem's strategy document for RIIO ED1. In case of considering up to date forward-looking evidence, the implied TMR would be even higher. We believe that the CC has somewhat "cherry picked" those bits of recent market evidence that show lower numbers such as the RFR but have not looked consistently at contemporary evidence on other aspects of equity returns such as the ERP.

<sup>12</sup> Bank of England (2013): "Financial Stability Report 6/2013" and "Financial Stability Report 11/2013".

<sup>13</sup> E.g. Reuters (18 Dec 2013): "Fed cuts bond buying in first step away from historic stimulus".

### 2.3. Direct Translation of the CC's Estimate Would Lead to Inconsistency Across the Sectors that Ofgem Regulates

In this section we provide further evidence on the potentially serious distortions arising from Ofgem using a one-to-one translation of the CC's provisional decision. Ofgem will have to bear in mind that it regulates a number of different sectors and that once it starts the RIIO-ED1 price control period in 2015 it will have locked in the available rates of return for all sectors for at least six years (the RIIO-T1 and RIIO-GD1 decisions do not come up for renewal until 2021).<sup>14,15</sup>

As shown in Table 2.1 the one-to-one translation of the CC provisional decision would lead to a situation in which the allowed rates of return for the major networks regulated under RIIO-T1 and RIIO-GD1 would be between 11% and 19% higher than for those regulated under RIIO-ED1.

**Table 2.1**  
**Comparison of WACC Allowances Across Sectors Ofgem Regulates**

	<b>ED1*</b> <b>2015-23</b>	<b>T1 (NGET)</b> <b>2013-21</b>	<b>T1 (NGG)</b> <b>2013-21</b>	<b>GD1</b> <b>2013-21</b>
Gearing	65%	60%	62.5%	65%
RFR	1.25%	2%	2%	2%
Asset Beta (implied**)	0.38	0.44	0.40	0.38
Equity Beta	0.9	0.95	0.91	0.9
ERP	4.75%	5.25%	5.25%	5.25%
Cost of Equity (real, post-tax)	5.50%	7%	6.80%	6.70%
Cost of Debt (real, pre-tax)**	2.92%	2.92%	2.92%	2.92%
WACC (real, vanilla)	3.82%	4.55%	4.38%	4.24%
<b>Percentage Difference in WACC</b>		<b>19%</b>	<b>14%</b>	<b>11%</b>

Source: NERA analysis of Ofgem documents. \* Using Ofgem's CC translation. \*\* Calculated using debt beta of 0.1 for all (implies changes in asset betas compared to previous Ofgem decisions where Ofgem implicitly assumed a debt beta of zero). \*\*\* First year of T1 price controls. We understand that any changes in the cost of debt index will affect all companies in the same way although the relative difference will increase in the case of a drop in the cost of debt index because of the higher gearing assumption used for RIIO-ED1. E.g. if the index drops to 2.5% in the future, the difference becomes 12% to 21% compared to the other networks.

Based on the above, if the CC were to use the NIE decision for RIIO-ED1, there would be a significant difference between the allowed rate of return for ED1 and GD1, which Ofgem has provisionally assumed have the same asset beta (when calculated using a comparable debt beta assumption).<sup>16</sup>

<sup>14</sup> In practice there will be changes to the available rate of return in line with changes to the cost of debt index but these will affect all major network operators in the same way as the proposed index is the same for all networks bar SHETL.

<sup>15</sup> In the US some regulators allow for a stay-out premium, an additional uplift to the allowed rate of return if a utility commits to not calling a rate case thereby saving the Commission costs and taking additional risk itself.

<sup>16</sup> See Ofgem's Final Proposals for RIIO-T1 and RIIO-GD1 for a detailed discussion of the differences in relative risk between NGET and the GDNs.

Since the RIIO-GD1 and RIIO-ED1 price reviews overlap for a period of six years, Ofgem will have to consider carefully whether the DNOs will be able to attract financing for this period when available returns differ significantly. This is a potentially serious imbalance.

This issue of competing alternatives is brought out explicitly by Hastings in its response to the CC's NIE Decision:

*“With mobile capital, regulated infrastructure assets need to provide an adequate equity risk premium commensurate with the risk profile and sufficiently in excess of debt returns in order to encourage investors to allocate equity capital and support capital expenditure programs (particularly if they cannot be funded organically from operational cash flow).”<sup>17</sup>*

## 2.4. Inconsistency with International Precedent

In its provisional determination for NIE, the CC sets a post-tax cost of equity of 4.4%-5.2%,<sup>18</sup> at NIE's actual gearing of 50%. If we translate the CC's provisional determination to a cost of equity at 65% gearing (equal to Ofgem's initial notional gearing assumption for RIIO-ED1), we would get a post-tax cost of equity of 5.6%-7.9%. This is broadly in line with Ofgem's initial allowance of 6.0%-7.2% for RIIO-ED1, which is at 65% notional gearing.

However, we do not believe that the CC or Ofgem's allowance for the cost of equity is in line with international precedent. In New South Wales in Australia, the regulator IPART has recently set out its methodology for setting the cost of equity.<sup>19</sup> In its final report, it decides to estimate the cost of equity using a combination of long-term average and current market data. IPART argues that target rates of return are influenced primarily by long-term averages and expectations:<sup>20</sup>

*“The assumptions they [independent experts] use in assessing companies commonly reflect long-term views but are adjusted when there are more sustained variations from current rates. Similarly, we understand that target rates of return that firms typically use in evaluating investment decision are relatively stable. While they may be adjusted from time to time in response to current rates, they are strongly influenced by long term averages and expectations.”*

This focus on long-term averages is significantly different from the CC's approach, which adopts a short-term averaging approach on the TMR. It is particularly at odds with the CC's view that the current market approach is required following the financial crisis. IPART argues that the market uncertainty following the financial crisis means there should be greater emphasis on long-term market data instead of current market data, in order to ensure the

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<sup>17</sup> Hastings (2013): “CC NIE Response”, pp.2-3.

<sup>18</sup> Competition Commission (2013): “Northern Ireland Electricity Ltd Price Determination” Table 13.11, p.13-56.

<sup>19</sup> IPART (December 2013): “Review of WACC Methodology – Research – Final Report”.

<sup>20</sup> IPART (December 2013): “Review of WACC Methodology – Research – Interim Report”, p.11.



methodology is robust to all types of market conditions.<sup>21</sup> Therefore, the CC's methodology for NIE is in direct contradiction to this Australian precedent.

Moreover, in the US, electricity utilities have an average return on equity of 9.6%, which support a cost of equity of 8.0%, at 50% gearing. This is shown in Table 2.2 below.

**Table 2.2**  
**US Electric Utility Return on Equity**

<b>Utility</b>	<b>S&amp;P LT Credit Rating</b>	<b>Authorised Return on Equity (%)</b>	<b>Debt/Total Cap (%)</b>
Maui Electric Company, Limited	BBB-	9.0	42
United Illuminating Company	BBB	9.15	49
Niagara Mohawk Power Corporation	N/A	9.3	40
Potomac Electric Power Company	BBB+	9.36	51
Cross Texas	N/A	9.6	N/A
Wind Energy Transmission Texas	N/A	9.6	N/A
Baltimore Gas and Electric Company	BBB	9.75	51
Atlantic City Electric Company	BBB+	9.75	57
Avista Corporation	BBB	9.8	51
Puget Sound Energy, Inc.	N/A	9.8	53
Tucson Electric Power Company	N/A	10.0	59
Consumers Energy Company	BBB	10.3	48
<b>Average</b>		<b>9.6%</b>	<b>50%</b>
<b>Real Cost of Equity</b>		<b>8.0%</b>	

*Source: NERA analysis of Bloomberg and US utility company data, Consensus Economics (October 2013); Note: To calculate the real cost of equity, we assume an inflation assumption of 1.5%, from the Consensus Economics estimate for the US for 2013. We apply the Fisher formula to calculate the real cost of equity from the nominal return on equity. In our analysis, we exclude all companies with generation assets accounting for more than 50% of total assets, in order to compare with the CC NIE and Ofgem RIIO-ED1 determinations.*

<sup>21</sup> IPART (December 2013): "Review of WACC Methodology – Research – Final Report", p.5.

Table 2.3 shows that the average real cost of equity for US electric utilities is 8.0% at 50% gearing. This is substantially above the cost of equity allowed by the CC and Ofgem if compared at the same gearing, as shown below.

**Table 2.3**  
**Comparison of US Utilities Cost of Equity to Ofgem and CC Decisions at 50% Gearing**

	<b>Cost of Equity at 50% Gearing</b>
US Electric Utilities	8.0%
CC NIE Provisional Determination	4.4% - 5.2%
Ofgem RIIO-ED1 Strategy Decision	4.7% - 5.7%

*Source: Bloomberg, CC NIE Provisional Determination (November 2013), Ofgem RIIO-ED1 Strategy Decision (March 2013)*

The real cost of equity for US electric utilities is substantially higher than the CC’s allowance for NIE and Ofgem strategy decision for RIIO-ED1, if compared at a consistent gearing level. Given the CC’s provisional determination has assumed a very low TMR, we believe this is the driver for why there such a large dispersion.

Although we acknowledge that there isn’t necessarily a one for one read across in appropriate allowed rate of return between regulatory systems but the difference between allowed returns on offer in the US of around 8% and those proposed by the CC for NIE of around 5% is so severe that it could have severe consequences for the attractiveness of UK infrastructure to global investors.

Ofgem should take into account this US precedent alongside the Australian IPART precedent, which suggests that the CC’s view on the TMR is not shared by US or Australian regulators and would lead to an unprecedented low allowance on the cost of equity.

### 3. Implications for Risk

*Can you provide evidence on the impact of giving greater weight to contemporary market evidence on perceived systematic and regulatory risk?*

#### 3.1. The Impact of the CC's Proposals

The immediate impact of the CC's decision of giving greater weight to current data is mirrored in Fitch's intention to downgrade of NIE's credit rating, should the CC provisional determination be implemented. Fitch quotes the significantly reduced revenues allowed under the lower return framework as the main driver of higher default risk:

*"Fitch Ratings says that it would likely downgrade Northern Ireland Electricity's (NIE) senior unsecured rating to 'BBB+' from 'A-' if the proposal included in the Provisional Determination published by the Competition Commission (CC) on 12 November 2013 materialised in the Final Determination (FD). (...)*

*We expect the reduction in cash flow generation, mainly driven by the lower regulatory allowed revenues proposed by the CC of GBP69m (6.4% lower than in UReg's FD), to negatively affect NIE's post-maintenance and post-tax interest cover ratio as calculated by Fitch and limiting the company's financial flexibility".<sup>22</sup>*

Beyond the immediate impact on NIE the CC decision contains a number of aspects that have the potential to increase perceived regulatory and systematic risk of the sector as a whole.

Specifically, the CC's proposition of using more short-term evidence and changing methodology by giving more weight to forward-looking data introduces three additional risks into the regulatory process that are likely to increase regulatory perception of risk:

- Using more short-term data to estimate the cost of capital will lead to a more volatile cost allowance that is not in line with a long-term investor's approach to assessing required returns. This increase in volatility is likely to lead to a higher asset beta (as the WACC allowance – and therefore company's profits - would become "cyclical" and volatile);
- Using more short-term data to estimate the cost of capital allowance for a long regulatory period (eight years in the case of RIIO-ED1) also increases the risk of the regulator using an allowance that is not representative of *average* conditions over the regulatory period or the investment horizon (which tends to be longer); and
- Using forward-looking data, which is by definition more subjective and open to interpretation than historical data, increases regulatory discretion, which in turn increases regulatory risk.

We discuss these points in turn.

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<sup>22</sup> Fitch (2013): Press release regarding NIE downgrade, <http://www.reuters.com/article/2013/11/27/fitch-competition-commissions-provisiona-idUSFit67800820131127>.

### 3.2. Short-term Data Leads to a More Volatile Allowance Over Time

By giving more weight to short-term data the CC's approach introduces additional volatility into the setting of the allowed rate of return as historical averages are more stable and designed to "smooth out" for short run volatility.

Long-term investors are unlikely to be adjusting their required hurdle rates significantly in response to short-term events unless they are convinced that a change in the available rates of return is permanent. This is set out e.g. in Hastings' response to the CC provisional determination:

*"Hastings takes what we believe is a relatively widely shared view that infrastructure assets are long-term investments. We therefore believe that a long-term view is appropriate when estimating key parameters such as the risk free rate and market risk premium, with these views influenced more by 10, 20 or even 30 year historical trends than current market spot rates.*

*(...) The compression of short term market returns due to excess market liquidity does in no way mean that investors will be willing to invest in long-term regulated businesses with illiquid capital at the same low short term realised returns. Investors will continue to require regulated assets to deliver long-term returns consistent with their long-term benchmarks for assets with comparable long-term risk profiles."*<sup>23</sup>

Against this context of stable return requirements by long-term investors any approach that transfers fluctuating short-run rate risk onto the utility will affect adversely the perceived riskiness of an investment. E.g. Moody's writes:

*"[In the "cost and investment recovery" category] Moody's will thus assess a regulator's willingness to keep the volatility and the uncertainty associated with operating and financial costs with the company or to pass these on to consumers"*<sup>24</sup>

Moreover, introducing volatility runs counter to the main investment rationale according to the Water UK investor survey, which is "stability and reliability."<sup>25</sup> This increase in volatility is also likely to lead to a higher asset beta (as the WACC allowance – and therefore company's profits - would become "cyclical" and volatile). Even if there was good evidence that recent data on TMR showed lower market returns, the likelihood that a switch to a regulatory methodology that relied on more current market data could increase beta should, by itself, be sufficient for regulators to be very cautious about changing their methodologies. At the very least, more research needs to be undertaken between the overall WACC

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<sup>23</sup> Hastings (2013): "Northern Ireland Electricity Price Control Review (RP5) (2012-2017) – Hastings Fund Management Submission in Response to Provisional Determination", p.3.

<sup>24</sup> Moody's (2009): "Regulated Electric and Gas Networks", p.10.

<sup>25</sup> Indepen (2013): "Water UK Investor Survey", p.13.

methodology (“historic” versus “current” market data) and beta before a decision is made to change approaches.

### **3.3. Short Run Forecasts Have a Larger Margin for Error**

A second aspect related to the use of short-run data is an increased risk of choosing a spot estimate that is unrepresentative of *average* conditions over the regulatory period. Using an estimate of TMR based on short-run, forward-looking data viewed at a single point in time runs the risk of selecting a point estimate that reflects a transitory position in the tail of the distribution of the required cost of capital. The severity of this risk is increased when the regulatory period is long and still some way into the future as reliable forecast data will only exist for a comparatively small part of the regulatory period and there will be a long period for which allowed returns and required returns will be out of line (cf. section 2.3).

This is less of an issue in the US where both the regulator and the regulated company can call a re-determination at any time if the allowed parameters have become too far removed from actual parameters. The same is not true in jurisdictions with long, fixed regulatory periods such as the RIIO periods.

### **3.4. Increased Regulatory Discretion**

A third risk element introduced by the use of short-term and forward-looking data is the introduction of additional regulatory discretion and subjectivity. While there are established databases for historic returns there is considerably more uncertainty around forward-looking estimates with a number of competing data providers and assumptions having a strong effect on the eventual estimate, a fact the CC itself noted as part of the Bristol Water decision.<sup>26</sup> In selecting its preferred method, data provider and assumptions there is considerably more room and requirement for the regulator to choose a point estimate from a wide range that is by nature not verifiable.

The use of forward-looking data therefore inevitably introduces an additional element of subjectivity into a sector where according to the Water UK investor survey “*the top ranked risk for all investment types [is] regulatory risk*” already.<sup>27</sup> As such any increase in regulatory discretion is likely to lead to increased perceived risk by investors.

Transparency and limited regulatory and political discretion are central factors driving Moody’s “Stability and Predictability Criterion”:

*“We consider the characteristics of the regulatory environment in which a network operates. These include how developed and transparent the regulatory framework is; the regulator’s track record for predictability and*

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<sup>26</sup> Competition Commission (2010): “*Water Price Limits Determination*”.

<sup>27</sup> Indepen (2013): “*Water UK Investor Survey*”, p.20.

*stability in terms of decision making; and its independence vis-à-vis politicians”.*<sup>28</sup>

The impact of uncertainty is also described in the regulatory and economic literature more generally. Empirically, the Ellsberg paradox shows that traditional expected utility theory fails when there is uncertainty about the probabilities to be allocated to certain events.<sup>29</sup> In the context of a regulator relying on more unpredictable forward-looking evidence with a less clear interpretation, the corollary of the Ellsberg paradox is that investors are likely to apply an “uncertainty premium” for discounting cash flows from such regulated activities.

Papers that have tried to conceptualise the “uncertainty premium” with the CAPM framework include Izhakian, Y. and S. Benninga (2011)<sup>30</sup> and Izhakian, Yehuda (2012)<sup>31</sup>, which provides a more detailed review of the related literature.

The UK water license reform debate provides an applied example of increased regulatory discretion having a direct negative impact on perceived risk in a sector. As Moody’s wrote:

*“Continuing uncertainty around key features of their licences is credit negative for water and sewerage companies in England and Wales. (...) Ofwat's new proposals to modify water companies' licences follow draft licence changes published in December 2011. These earlier proposals were rejected by all of the incumbent water companies, largely on the grounds that the changes were unnecessarily broad and created uncertainty which would undermine the stability and predictability of the regulatory regime to the detriment of operators' ability to raise capital. (...) It appears that the biggest area of dispute between the companies and the regulator is around future flexibility. (...) The degree of flexibility that Ofwat is seeking is surprising...”*<sup>32</sup>

Ofgem will likely want to avoid any increase in risk associated with the move to more short-term data, especially as it runs counter to Ofgem’s stated aim of ensuring long-term financeability as set out in the run-up to the RIIO price controls.

*“A central feature of the RIIO model is that we will base our regulatory settlement on robust principles that will ensure that network companies are financeable in the long term.”*<sup>33</sup>

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<sup>28</sup> Moody’s (2009): “Regulated Electric and Gas Networks”, p.9.

<sup>29</sup> Ellsberg, D., 1961. Risk, Ambiguity and Savage Axioms. Quarterly Journal of Economics 75 (4), 643–679.

<sup>30</sup> Izhakian, Y. and S. Benninga (2011) “The Uncertainty Premium in an Ambiguous Economy,” The Quarterly Journal of Finance, Vol. 1, pp. 323–354.

<sup>31</sup> Izhakian, Yehuda (2012), “Capital Asset Pricing under Ambiguity”, working paper of Oct 6th 2012.

<sup>32</sup> Moody’s (29 Oct 2012): “Continuing uncertainty for UK water sector with proposed licence changes – Announcement”.

<sup>33</sup> Ofgem (2013): “Strategy decision for the RIIO-ED1 electricity distribution price control”, p.25.

### 3.5. Acceptability to Equity Markets

The CC's provisional determination for NIE is likely to have led to less demand from equity market investors in a free and open market because of the low allowance on the cost of equity. However, NIE is indirectly owned by the Irish government, and thus we have not been able to see the acceptability to equity markets thus far following the CC's provisional determination.

The risk that equity market investors sell the stock would be a clear indication that the CC's allowance on the cost of equity is too low. We have argued that the CC has set a TMR lower than the long-run level, and investors are likely to view this as a significant risk not only now, but also for future price controls. A focus on current market data is a departure from previous CC reviews and would lead to uncertainty at future price control reviews, because of the volatility of current market data. Thus, equity market investors, particularly long-term investors, are likely to display less interest in the stock in a free and open market.

However, NIE has been owned by ESB since December 2010,<sup>34</sup> and the Irish government has a 95% share in ESB.<sup>35</sup> Therefore, the equity investors do not operate in free and open market conditions. The reaction to the CC's NIE determination cannot be seen in equity markets, and thus it would be wrong for Ofgem to conclude that there is no risk that equity market investors will leave the market.

In a CAPM framework, the cost of equity should be set such that it is agnostic to the nature of ownership, and just because NIE is effectively owned by the State, does not mean that there is no long-term risk of low equity market investment. Ofgem should consider the strong likelihood that if investors operated freely, the CC's determination would lead to substantial uncertainty for equity market investors.

### 3.6. Conclusion

A move towards a more short-run approach to assessing equity market risk is likely to make allowed returns more volatile, to create a larger margin for error, and will increase regulatory discretion and risk. Similar points have also been made by long term infrastructure investors including Hastings in its response to the NIE provisional decision:

*“In our opinion as an equity investor this determination if finalized would appear to introduce a new level of uncertainty into UK regulatory practice.  
(...)”*

*Moving away from a consistent and predictable practice of relying on historical and objective data when determining market returns and other regulatory WACC parameters and instead placing too much reliance on near term forward looking estimates appears to be introducing a significant element of volatility, subjectivity and uncertainty into the process. This*

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<sup>34</sup> ESB Press Release (December 2010): “Joint Statement from ESB and Viridian – ESB concludes NIE acquisition”. Available at: <http://www.esb.ie/main/press/pressreleaseWS.jsp?id=444>.

<sup>35</sup> ESB: Annual Report and Accounts 2012, p.2.

*uncertainty over time could lead to less competitively priced equity and debt to the detriment of customers and regulated businesses.”<sup>36</sup>*

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<sup>36</sup> Hastings (2013): “Northern Ireland Electricity Price Control Review (RP5) (2012-2017) – Hastings Fund Management Submission in Response to Provisional Determination”, p.2.



## 4. Financing Issues

*Do you think changing our methodology for the equity market return would impact on interest costs for DNOs? If so, how would this need to be accommodated in our approach to the financial package or the regulatory package more widely?*

As set out above the CC's proposed approach would lead to increased volatility and reduced predictability in setting allowed returns for UK DNOs. Transparency and limited regulatory and political discretion are central factors driving Moody's "Stability and Predictability Criterion":

*"We consider the characteristics of the regulatory environment in which a network operates. These include how developed and transparent the regulatory framework is; the regulator's track record for predictability and stability in terms of decision making; and its independence vis-à-vis politicians."<sup>37</sup>*

The UK regulatory framework is currently rated "Aaa" against this criterion, which makes up 15% of the total Moody's rating grade. It remains to be seen how rating agencies would react to any change in the long-established methods applied in the UK but a downgrade of the stability and predictability criterion cannot be completely ruled out.

Independent of the rating agencies' views on the "stability and predictability" criterion the significant reduction in allowed revenues would likely lead to significant pressure on company credit ratings.

The immediate consequences of not allowing companies to earn a rate of return commensurate with a competitive risk-return trade-off can also be gleaned from Fitch (projected) downgrade of NIE's credit rating in reaction to the CC proposals (set out above) and investor commentary such as e.g. provided by Hastings in response to the CC provisional decision for NIE:

*"We believe there is a danger that regulated businesses, faced with an increased uncertainty of regulatory approach and aggressive reductions in allowed returns without compensating reductions in risk, may not be able to attract capital in today's competitive and liquid global financial markets. Debt or equity investors may simply choose to redirect capital to other investments with superior risk-adjusted returns.*

*Although, in the near term, such moves [lowering allowed returns and moving to a more short-term view] may hold down regulated returns, the outcomes will also have longer term negative consequences due to reduced capital attractiveness, increased pricing for the sector and discouraged necessary investment. Under-investment can cause cascading negative implications for*

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<sup>37</sup> Moody's (2009): "Regulated Electric and Gas Networks", p.9.

*UK regulated businesses, system reliability, safety and consumer costs in general.”<sup>38</sup>*

In addition Moody's also picks up on the significant negative rating impact that lower allowed returns in the water sector would have on regulated companies.

*“A reduction in allowed returns, below the levels proposed by companies for AMP6, will be credit negative and will result in downward rating pressure.”<sup>39</sup>*

From the above results and positioning it is clear that there would likely be a significant impact on financing costs that would have to be reflected in Ofgem's modelling of financing costs and that would potentially necessitate a change in assumptions underlying the cost of debt index.

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<sup>38</sup> Hastings (2013): “Northern Ireland Electricity Price Control Review (RP5) (2012-2017) – Hastings Fund Management Submission in Response to Provisional Determination”, pp.4-5.

<sup>39</sup> Moody's (20 Dec 2013): “Ofwat announcement on change of price review process credit negative for UK water sector”.

## 5. Investment Incentives

*How do you consider that the choice of methodology for determining the appropriate equity market return impacts on investment incentives? Is there any evidence that you can provide?*

With regard to investment incentives Ofgem takes the preliminary view that in principle a move to a more short-run view on the cost of capital would mean that “*investment incentives might be more finely calibrated if cost of capital allowances are made consistent with the current market view of forward-looking expected returns.*” Ofgem further conjectures that in practice fine-tuning incentives may be difficult. Ofgem therefore concludes that “*a longer-run view of the equity market return to have no more than a second order effect on incentives.*”

This conclusion would appear to be supported by investor views where they have been made public, e.g. in Hastings’ consultation response to the CC NIE decision:

*“Hastings takes what we believe is a relatively widely shared view that infrastructure assets are long-term investments. We therefore believe that a long-term view is appropriate when estimating key parameters such as the risk free rate and market risk premium, with these views influenced more by 10, 20 or even 30 year historical trends than current market spot rates.*

*(...) The compression of short term market returns due to excess market liquidity does in no way mean that investors will be willing to invest in long-term regulated businesses with illiquid capital at the same low short term realised returns. Investors will continue to require regulated assets to deliver long-term returns consistent with their long-term benchmarks for assets with comparable long-term risk profiles.”<sup>40</sup>*

Recent years have seen an increase in long-term investors in the UK utilities sector. As set out above these tend to be interested in stable long-term returns and less concerned about short-run changes to the rate of return. One factor that has often been quoted as a driver of their interest has been the long-run and stable regulatory model towards remunerating assets that has been the norm in the UK.

Moving to short-run data would be more reflective of the investment horizon of more short-run oriented PE investors and likely change investment incentives for the two sets of investors for the following reasons:

- Potentially re-setting total market returns in line with current market data at every review has the effect of only giving investors certainty about their returns for a single regulatory period, after which returns will be reset and there is little predictability over future returns.

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<sup>40</sup> Hastings (2013): “Northern Ireland Electricity Price Control Review (RP5) (2012-2017) – Hastings Fund Management Submission in Response to Provisional Determination”, p.3.

- Ownership of UK DNOs has seen a trend from ownership by corporates (e.g. E.ON, EDF, United Utilities) towards more long-term oriented private owners (including infrastructure investors who explicitly state their long-term ambitions such as CKI.)

The OFT database on Infrastructure Ownership and Control stock-take (2010) confirmed this general trend towards the involvement of longer horizon infrastructure funds across a broader range of utilities finding that:

*“Forms of infrastructure ownership have changed markedly in recent years, with infrastructure funds playing an increasingly prominent role. (...)*

*Physical infrastructure investments typically take a long time and require long pay-back periods, so these investments are more suited to investors with matching long-term time horizons. This is indeed one of the main arguments made by infrastructure funds, and a stated reason for their recent growth”<sup>41</sup>*

As set out at the start of this section the importance of long-term stability and returns for investors in the UK utilities sector is also confirmed by e.g. Hastings’ recent response to the CC’s provisional decision. This investor focus on long-run stability is confirmed by responses to Water UK’s investor survey:

*“The most frequently mentioned objectives of investment in the water sector were: stability and reliability (68% of holders of unlisted equity and 53% of bond holders); and the long term nature of the investment (52% of listed equity holders).”<sup>42</sup>*

On the other hand the consequences of falling short of these investor expectations are illustrated in Hastings’ response to the CC NIE decision:

*“We believe there is a danger that regulated businesses, faced with an increased uncertainty of regulatory approach and aggressive reductions in allowed returns without compensating reductions in risk, may not be able to attract capital in today’s competitive and liquid global financial markets. Debt or equity investors may simply choose to redirect capital to other investments with superior risk-adjusted returns.*

*Although, in the near term, such moves [lowering allowed returns and moving to a more short-term view] may hold down regulated returns, the outcomes will also have longer term negative consequences due to reduced capital attractiveness, increased pricing for the sector and discouraged necessary investment. Under-investment can cause cascading negative implications for*

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<sup>41</sup> OFT (2010): “Infrastructure Ownership and Control Stock-take, Final report: Main findings”, pp. 4 & 43.

<sup>42</sup> Indepen (2013): “Water UK Investor Survey”, p.4.

*UK regulated businesses, system reliability, safety and consumer costs in general.”<sup>43</sup>*

A second issue raised by Ofgem is that:

*“A potential problem with using a relatively stable measure of equity market return is that it might create incentives for over-investment when the market anticipates lower returns, and deter investment when the market anticipated higher returns.”*

However, over a long regulatory period for which there is a lack of robust forecast data (like for RIIO-ED1) there is a comparable problem, even when using current data. In particular, there is a risk of providing insufficient investment incentives based on current data when the forecast is for required yields to trend upwards (also see section 2). As such the use of current market data does not provide any major advantage over the use of long-run averages in this realm of investment incentives.

In addition to potentially limiting the attractiveness of the sector by not allowing companies to earn the appropriate rate of return once market rates pick up again during the next six to eight years during which the RIIO price controls will remain broadly fixed, the move towards a more current approach to setting the allowed rate of return introduces volatility and uncertainty about the long-term returns available to an investor. One impact of uncertainty on investment incentives is noted by the CC itself:

*“One consequence of this uncertainty is that NIE has restrained its capital expenditure as outlined in Appendix 2.5, paragraph 52. It said that this was maintained at the minimum level consistent with compliance with its statutory and Licence obligations. This level is likely to be different from levels of efficient capital expenditure which we would consider to be in the public interest. For example, reduced investment might lead to higher risks of supply failure, less network development, inefficient long-run investment decisions and so on.”<sup>44</sup>*

While the uncertainty introduced by the CC decision is more long-term rather than immediate in nature, the general issue about the negative impact of uncertainty on investment remains a pertinent feature that is amplified by the CC decision.

In terms of assessing investment incentives for long-term investors, it is also worth noting the advent of competing uses of capital that offer long-term investments with more limited reset risk and regulatory intervention such as offshore transmission cables (OFTOs) and renewable energy assets remunerated under 15-20 years feed-in tariffs. It is worth noting that these competing uses of capital were not available a few years ago and thus increase the pool of possible long-term investments available to investors.

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<sup>43</sup> Hastings (2013): *ibid*, pp.4-5.

<sup>44</sup> Competition Commission (2013): “*Northern Ireland Electricity Ltd Price Determination*”, para. 3.63.

## 6. Eight-year RIIO Price Control Period

*To what extent do you think the merits of the alternative approaches to the assessment of the equity market return are affected by the eight-year RIIO control period?*

In our view there are significant concerns about the applicability of the CC's arguments (which rely on current data for justifying a reduction in the top end of the TMR range) for a long regulatory period, such as RIIO-ED1 that extends significantly beyond the period for which there are robust forecasts of expected market conditions.

Even if we agreed with the CC's provisional decision on NIE, different time frames for the NIE price review (2012-17) and the RIIO ED1 price review (2015-2023) would mean the CC's provisional decision is not directly applicable to RIIO. For example, averaged over the respective periods from today to 2017 (applicable for NIE) and 2015 to 2023 (applicable for DNOs) the average difference in expected risk-free rate for RIIO-ED1 and the NIE RP is in excess of 50bps.

We also note that the available indicators actually predict a significant change in macroeconomic and financial conditions over the next 10 years and macro-economic forecasters predict GDP growth for the UK economy is expected to normalise during the RIIO-ED1 period at a level of around 2.0%, significantly above most "current" forecasts for this year and more in line with pre-crisis average growth rates.

## 7. CC Beta Estimate

In this section, we consider the CC's beta estimate for NIE, and whether this is consistent with its approach on the equity market return. Arguably, in its decision for NIE, the CC was more generous on the beta assumption than would be justified by empirical evidence, and compensated for this by setting a very low TMR. Thus, the CC's decision on the TMR for NIE should not be taken in isolation and should be considered alongside its decision on the beta.

### 7.1. CC Empirical Evidence on Beta

In order to estimate NIE's beta, the CC looks at empirical estimates of utility company betas. The CC's empirical estimates are presented in Figure 7.1.

**Figure 7.1**  
**CC Utility Company Betas**

	<i>Two years, daily data</i>			<i>Five years, monthly data</i>		
	<i>Mean</i>	<i>95% interval*</i>		<i>Mean</i>	<i>95% interval*</i>	
SSE	0.45	0.27	0.62	0.43	0.20	0.70
National Grid	0.34	0.26	0.44	0.48	0.33	0.69
United Utilities	0.33	0.23	0.48	0.37	0.28	0.51
Severn Trent	0.31	0.12	0.45	0.34	0.20	0.46
Penon	0.27	0.05	0.48	0.27	0.08	0.48
Portfolio	0.35	0.26	0.47	0.42	0.33	0.58

*Source:* CC calculations based on Bloomberg data.

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\*Over the period, 95 per cent of the observations fell within this range.

*Source:* CC (November 2013): NIE Provisional Determination, Table 8, p13-51.

Figure 7.1 shows that the 95% confidence interval for the 2-year daily asset beta for GB utilities is in the range 0.26-0.47. The confidence interval for the 5-year monthly asset beta is slightly higher at 0.33-0.58. The CC argues that these empirical estimates do not adequately capture the systematic risk of NIE, and concludes that a range of 0.4-0.45 for NIE would be more appropriate. This clearly represents the upper end of the empirical evidence, particularly on short-term data and suggests that the CC considers short-term GB comparator data to be unrepresentative of the risk for a Northern Irish electricity company.

## 7.2. CC View of NIE's Risk Relative to GB Comparators

The CC argues that NIE may face greater systematic risk than GB comparators, and thus the empirical estimates for GB comparators would not remunerate investors for the risk of investing in NIE. In particular, the CC argues the “*the Northern Ireland regime may be less well understood by investors*”.<sup>45</sup>

This leads to the CC's final beta range of 0.4-0.45 for NIE, which is at the upper end of the empirical estimates of the beta for GB comparators.

We do not find any evidence that the Northern Irish regulatory regime in any less well understood than the regulatory regime for GB utility comparators. The regulatory regime for Northern Ireland has been in existence since 1992, and the CC's provisional determination for NIE is for the fifth price control, RP5. There were no substantial changes to the regime from the previous price control, RP4, and therefore investors are likely to have a full understanding of the regulatory practices within the regime.

By contrast, the regulatory regimes for the GB comparators in the CC's comparator set have seen major changes. For the GB energy comparators, Ofgem has introduced the RIIO framework, which is three years longer than the previous price control, and creates substantially greater uncertainty for investors. In addition, the RIIO framework introduced a number of new incentive mechanisms, particularly for electricity transmission and distribution, which again increases the systematic risk that investors face.<sup>46</sup> UK water companies, three of which are in the CC's comparator set, have also seen substantial changes to the regulatory regime as Ofwat has introduced competition in the retail sector.<sup>47</sup>

We therefore consider that the regulatory regimes for the GB comparator set have seen significant changes. In comparison, the NIE regulatory regime appears to have been relatively stable and there is no evidence that the Northern Ireland regime is less well understood by investors. This implies that the CC's beta estimate for NIE should lie closer to the mid-point of the empirical estimates of the beta for GB comparators. In fact, the CC notes in its provisional determination that “*the regulatory framework applying to NIE is similar to that of Ofgem in many respects, particularly to that applying pre-RIIO*”.<sup>48</sup>

Thus, the CC's beta estimate is generous to NIE, and would lead to an overestimate of the cost of equity. However, it appears the CC compensates for this by setting an equity market return below the long-run expected levels. As argued in section 2, we believe the CC's estimate of the TMR is too low, but if this is considered in conjunction with the CC's estimate of the beta, the net effect on the cost of equity is minimal.

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<sup>45</sup> Competition Commission (2013): “*Northern Ireland Electricity Ltd Price Determination*” para. 13.168, p13-52.

<sup>46</sup> Ofgem (March 2013): “*Strategy decision for the RIIO-ED1 electricity distribution price control – Overview*”.

<sup>47</sup> Ofwat (July 2013): “*Setting price controls for 2015-20 – final methodology and expectations for companies' business plans*”.

<sup>48</sup> Competition Commission (2013): “*Northern Ireland Electricity Ltd Price Determination*”, para. 13.168, p.13-52.



### **7.3. Overall Cost of Equity**

Given the CC's high beta estimate, we believe Ofgem should not simply translate the CC's TMR decision across to GB energy. Ofgem should also apply the CC's estimate of the beta, particularly because we believe the Northern Irish regime is just as well understood by investors as the GB regime.

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