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10 January 2014

Hannah Nixon
Ofgem
Millbank
London

Dear Sir/Madam,

SUBJECT: Consultation on the methodology for assessing the equity market return for the purpose of setting RIIO price controls

I am responding to the RIIO-ED1 Cost of Equity consultation that runs to 10th January 2014. I would like to show my appreciation to Ofgem for encouraging debate on this important proposed change in regulation.

I am writing in my capacity as a UK utility industry equity analyst with more than 15 years of experience. I am currently working for the Macquarie Securities Group. My views do not necessarily reflect the views of the Macquarie Group as a whole nor any other Macquarie entity or Macquarie business group.

I see a number of possible issues over moving to a contemporary use of a cost of capital:

1) I disagree with the CC's calculation of i) equity betas and asset betas and ii) using contemporary data samples for return requirements
2) I do not think that comparability and Ofgem's interpretation on the CC's implied ROE in RIIO-ED1 is correct
3) I do not think a consultation on 'a cost of equity' in isolation is appropriate.
4) Whilst risk free rates and debt rates have fallen significantly in the past two decades, I believe required ROEs have remained broadly constant:
5) Is M&A a true reflection of cost of public market equity? I do not think so.
6) The Ofgem and Ofwat process is increasing regulatory risk perception.
7) Regulated utilities trading at a discount to RAB are unhelpful for introducing new capital.
8) Global utility returns are more attractive than UK returns which could limit capital flows into the UK.

Response to consultation

1) I disagree with the CC's calculation of i) equity betas and asset betas and ii) using shorter samples for return requirements

a. Using a sample to determine equity betas from 2002 is too short in my view. The period from 2000 onwards saw water companies recovering value following the poor outcome of the 1999 regulatory review coupled with the market unwinding from the tech boom. This leads to unrepresentative equity betas (e.g. I have many years of negative betas in my data over this period). I am not aware of any equity analysts in financial markets using unaltered equity betas with no 'common sense' adjustment. E.g. you cannot have a cost of equity lower than the cost of debt, or defensive stocks with high betas >>1. Examining unadjusted betas across stocks in other sectors regularly returns meaningless beta data. However, over very long periods unadjusted beta calculations will probably average out.

b. An asset beta of 0.35-0.4 leads to a cost of capital of an unlevered company of 2.9 – 3.1% plain vanilla real. This is lower than the CC allowed cost of capital (both headline and marginal). Clearly if the cost of capital fell as leverage was decreased then the markets would be deleveraging these assets, not the other way round. Clearly this is wrong and shows the limitations of a CAPM model. I would argue (see Section 2) that the business risk is closer to 0.45. One of my first conclusions from reading the Consultation documentation is that CAPM can only be an inexact science, and there are significant levels of difficultly and complexity of combining academic theory with real world evidence.

c. I do not see inflation breakeven curves as necessarily an accurate reflection of out-turn. Index linking gilts are generally illiquid. There is a poor correlation between prediction and actual using breakeven curves. I believe that if central banks do their jobs correctly CPI should out-turn at 2% and RPI slightly higher.

d. A sample always provides a range of outcomes around the population (central limit theorem). By definition equity returns are higher than risk free because of volatility. Any sample of annual returns could see a material difference between these and required in a population. If historic samples always equalled those required with no volatility, then I could see these returns being a lot lower as they would trend towards risk free. Finally, a common sense conclusion would be just because recent actual returns are, for example, zero, does not mean that investors expect zero returns going forward! In financial markets it is well known that past performance is no guarantee of future returns. I therefore disagree with the use of contemporary data without a common sense interpretation.

e. There is now an asymmetric risk over real risk-free rates. There is a natural annual volatility in real rates. This means an increase in rates is likely, but a fall is unlikely as I see a natural floor of 0% real (otherwise capital flows into real assets). There are structural issues driving real rates towards (and below) zero which are not economically sustainable.

2) I do not think that comparability and Ofgem's interpretation on the CC's implied ROE in RIIO-ED1 is correct

a. In my view, the allowed return should be set on the business, and the required return on equity is dependent on the split of risk between the different capital assets with the business. I believe the value of the business only changes with leverage if there are tax advantages and change in debt costs. I have assumed no beneficial tax impacts and that the cost of debt does not increase with this increase in leverage.

b. The CC's WACC for Northern Ireland electricity is 4.1% based on an asset beta of 0.42. The 4.1% return is made up of a 'high' cost of debt of 3.4% real and a 'low' cost of equity of 4.8% real. The CC make it clear that a high cost of debt does not necessarily imply a high cost of equity. I agree with this (within reason – the cost of equity has to be higher than the cost of debt, or else investors would always buy the debt over the equity). I believe that the underlying business risk split between debt and equity should be based on the marginal cost of debt which I see as lower than the 3.4% allowed. The CC has given NIE an embedded debt premium of c.0.7% (i.e. new debt could be issued at 2.7% real).

c. Taking out the embedded debt premium has meant the CC has awarded an underlying cost of capital of 3.75% plain vanilla real pre embedded debt costs. This rises to 4.1% with the addition of the embedded debt premium.

d. The CC believes that the asset risk of NIE may be slightly higher than other GB regulated assets. I lower the risk weighted returns using two methods: firstly removing from the company return the reduction in asset beta from 0.42 to 0.38 (in line with Ofgem's view of a 0.9 equity beta). The second is reducing the cost of debt from a marginal 2.7% to a marginal 1.9% I see as representative by marginal cost of debt using the Iboxx indexes. This second method still implies an equity beta of 0.75, a low systematic risk.

e. Dropping the asset beta to 0.38 calculates an equity beta of 0.66 for a 50% levered company with a 4.4% cost of equity. This is an overall 3.54% plain vanilla real return. If I assume the value of the firm does not change with increased leverage (there are no tax benefits, and assume debt costs do not change) then the implied ROE at 65% leverage is 6.6% real. A 3.54% asset return is a 0.48 asset beta.

f. I see the higher implied risk coming through the cost of debt, which at 2.7% real current is 80bps higher than the current Iboxx 10-year real rate of 1.9% real. If this 80bp debt premium is removed from the underlying NIE allowed return, this implies an underlying business required return of distribution companies of 3.35% plain vanilla real. This implies an asset beta of 0.44.

g. Using a higher leverage of 65% on this 3.35% real plain vanilla allowed return with a marginal cost of debt of 1.9% real, and assuming no change in value of the company from higher gearing (there are no tax benefits, and assume debt costs do not change) then the implied ROE at 65% leverage is 6.0% real.

h. If the allowed cost of debt in distribution companies in the first year is 2.7% real based on the Iboxx, then I see an overall allowed WACC, allowing for embedded debt of 0.8% (2.7% minus 1.9%) of 3.9% plain vanilla real.

i. On a company specific basis, I see some UK distribution companies having more scale and lower financing costs than others. If Ofgem examines the 'ring-fenced' companies only, I would argue that the cost of debt within the likes of Scottish-Hydro should be similar to NIE as the size, population demographics and positions outside the potentially more liquid England and Wales are not dissimilar.

j. In summary I find it difficult to justify a 5.5% cost of capital at 65% based on the CC NIE draft consultation. I estimate a range of 6-6.6% return on equity real.

Fig 1 I believe the translation of the CC's NIE review provides an ROE in the region of 6.0-6.6% real

	CC NIE	CC NIE Underlying	CC GB comparisons	Ofgem interpretation	Lower risk GB: lower debt		Lower risk GB: 0.42 - 0.38 asset beta		Midpoint
Leverage	0.50	0.50	0.65	0.65	0.50	0.65	0.50	0.65	0.65
Asset beta	0.42	0.42	0.42	0.38	0.42		0.38		

Equity beta	**0.75**	**0.75**	**1.02**	**0.90**	**0.75**		**0.66**		
Debt beta unlevered	0.10	0.10	0.10	0.10	0.10		0.10		
Debt beta levered	0.10	0.10	0.10	0.10	0.10		0.10		
ERP	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%	
RFR	1.25%	1.25%	1.25%	1.25%	1.25%	1.25%	1.25%	1.25%	
Cost of equity	**4.8%**	**4.8%**	**6.1%**	**5.5%**	**4.8%**	**6.0%**	**4.4%**	**6.6%**	**6.3%**
Cost of debt unlevered	1.25%	1.25%	1.25%	1.25%	1.25%	1.25%	1.25%	1.25%	1.25%
Cost of debt	3.40%	2.70%	2.70%	2.70%	1.90%	1.90%	2.70%	1.90%	1.90%
plain vanilla real WACC	**4.10%**	**3.75%**	**3.90%**	**3.69%**	**3.35%**	**3.35%**	**3.54%**	**3.54%**	**3.44%**

Source: CC, Ofgem, Macquarie Research, January 2014

3) I do not think a consultation on 'a cost of equity' in isolation is appropriate

a. I have a serious issue with direct comparison between the treatment of debt within NIE and Ofgem and Ofwat and the impact of this on the cost of equity. This is the risk associated with calculating the cost of debt and the impact of this risk on equity. I would argue that different treatments of debt provides different systematic risk to equity. Interest rates and inflation risks are amongst the two greatest drivers of equity market performance and cannot be diversified. The CC has allowed a full embedded debt cost pass through. If this process is repeated every review the systematic risk to equity holders is low. A permanent debt tracker methodology introduces significant tracker error for equity holders if the companies raise debt outside a smoothed 10-year profile. As utilities issue lumpy bonds I would see this as highly likely. Ofwat's proposed 5 year fixed rate cost of debt provides even greater systematic risk to equity holders in my view.

b. The Competition Commission report on Northern Ireland electricity summarises this relationship well:

    i. 13.103. This is because there is a possibility that any higher risk that bondholders bear (or perceive that they bear) might be offset by lower risk by equity holders. In other words, it is possible that, instead of being a consequence of a higher underlying business risk, any higher risk borne by debt holders might be merely the result of a different allocation in the case of NIE of an equivalent business risk between equity and debt.

c. If it is agreed that the systematic risks to equity change with a different treatment of debt, then it is clearly incorrect to examine the cost of equity associated in NIE in isolation.

4) Whilst risk free rates and debt rates have fallen significantly in the past two decades, I believe required ROEs have remained broadly constant:

a. Looking through 15 years of analysis as a utility equity analyst market participant (Credit Suisse Securities (both as an analyst and an investor), Liberum Capital and Macquarie Securities), the cost of equity I have used to discount future cash-flows has been broadly constant. In financial markets I also look at cashflows in nominal, not real, terms. Whilst risk free and inflation expectations rise and fall the return on equity has remained broadly constant. E.g. I used a discount rate on equity National Grid of 9% in 2000 and 8.5% now, and have used an RPI expectation of 2.5% in 2000 and 2.5% now. Risk free rates and debt rates have fallen significantly in the meantime implying a material pick-up in ERP and/or beta.

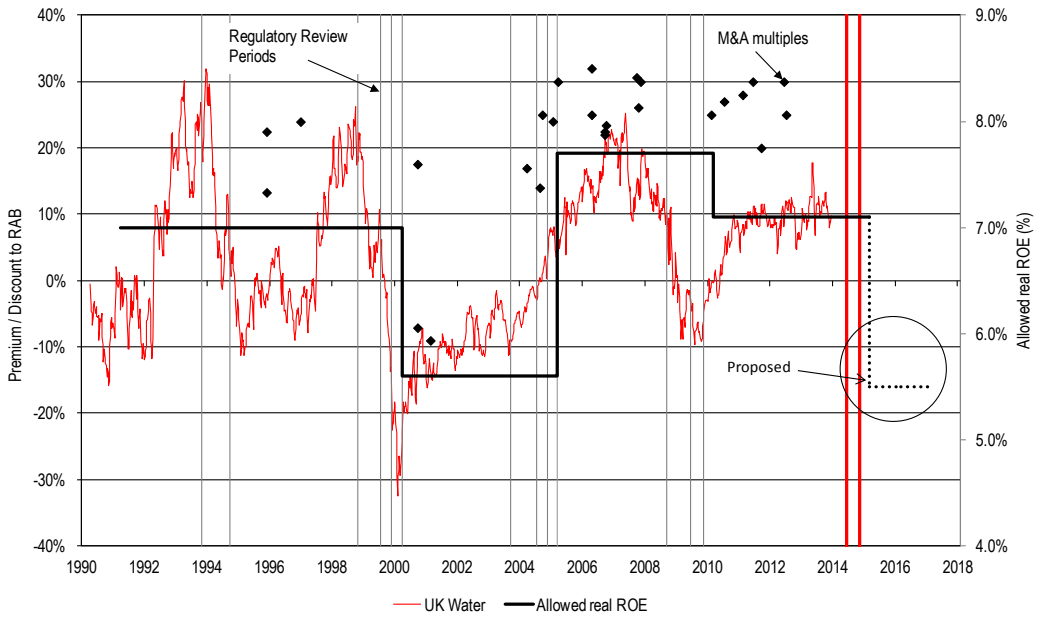
b. My own (small 15 year sample size) evidence backs academic evidence from Stephen Wright of Birkbeck College that over a 200 year period, return on equity has remained stable whilst all other parameters have moved significantly. I believe there is a good negative correlation between risk free and equity risk premiums. It is therefore wrong to use a low risk free with a low, or even average, ERP. Indeed in the CC report, the period when betas were high were when risk free rates collapsed and ERPs increased, and the low betas are observed in higher risk free return, lower ERP periods.

c. I speak to investors and value stocks on a daily basis and regularly assess the returns investors need to cover the uncertainty of returns in regulated utilities on public equity markets. Estimates today for investing in the UK utility public market sector are 8-9% nominal in a 60-65% levered RAB. With inflation expectations at 2.5% this would create a range of 5.5-6.5% real.

d. This qualitative analysis is backed up by market evidence. Stock valuations are extremely sensitive to allowed ROEs. If required ROEs remain broadly constant then the stocks should re-rate and de-rate with changes in allowed returns. This is clearly seen in the following figure. I would think that a 5.5% allowed ROE would see the sector trading at a discount to RAB in the absence of other out-performance despite being at the lower end of market requirements. I see this due to the points made in section 7 as well as negative market sentiment towards negative momentum stocks (e.g. EPS cuts, dividend cuts etc.)

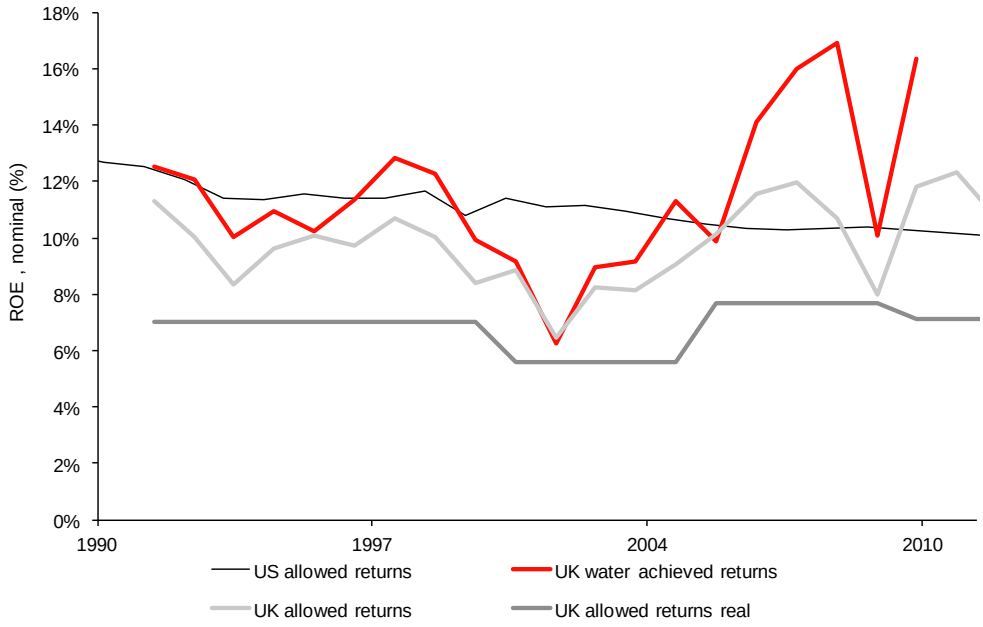
e. I estimate that the difference between achieved ROE and allowed ROE (i.e. outperformance) explains a significant level of valuation outperformance. I estimate that if investors assume the water companies are valued at RAB at the start of the next review, then an ROE outperformance of c.3-5% (driven mainly by the allowed cost of debt being higher than actual) would be worth 5-10% premium to RAB with 3 years remaining in the regulatory review. In my experience however, I believe that investors do put a premium on RAB at terminal value to reflect expected future outperformance. I therefore do not think that the current allowed ROEs in the sector can be seen to be particularly over generous. Outperformance, of course, is ultimately handed back to consumers.

Fig 2 UK water sector premium/discount to RAB versus allowed real returns



Source: Macquarie Research

Fig 3 UK water returns are showing outperformance. This should mean stocks would trade at a premium to regulated asset value if allowed ROE = required ROE



Source: Macquarie Research

5) Is M&A a true reflection of public market cost of equity? I do not think so.

I believe that M&A investors have a lower cost of equity than public equity markets for regulated utilities. There are three reasons for this:

1) Public equity markets have an opportunity cost of equity requirement. Investor performance is measured against other higher return stocks. A defensive weighted portfolio should always return a lower return than the market and therefore creates a drag on performance if all expected returns out-turn.

2) Every review period, and it now appears that the PR14 is now going to follow the same pattern, the listed stocks trade towards RAB. Therefore funds that are marked to market (i.e. public equity) have to take this hit. Private owners do not have to re-mark these positions during periods of uncertainty.

3) Institutional public equity investors usually require that market listed companies run at lower leverage than private companies. This means private companies have i) naturally higher returns to compensate for the higher risk, and ii) privately owned companies pay less tax than publicly listed companies. Tax outperformance only lasts in the current review period thereafter consumers benefit as this reduced cost is passed through to consumers. This does mean that some of the M&A premium can be justified by this change in leverage and associated returns.

6) Ofgem and Ofwat process is increasing regulatory risk perception

In the past 6 months investors have been faced with uncertainties in the UK utility sector. A rushed and inconsistent change in returns would potentially impact the credibility of regulators and therefore the attractiveness of investing in the sector. There are a number of material data points on increasing political and regulatory risk.

1) Political interference could jeopardise investment and increase the risk perception, and therefore cost of capital, in the sector.
2) Ofwat asking water companies to return revenues to consumers, beyond and above those allowed in the regulatory review and then changing the process for PR14.
3) Ofgem announcing a short consultation on re-examining the cost of equity.

The timing of the regulatory initiatives, coming shortly after utility bills have moved up the political agenda is increasing the perception of regulatory risk.

I regularly take views on the required returns for investors to invest in the sector are. I believe that the required equity returns in the sector have increased since the party conference season 2013.

7) Regulated utilities trading at a discount to RAB are unhelpful for introducing new capital

Most investors use a number of investment techniques to value these companies. These include a premium to RAB method (an Economic Value Add methodology), DCF, EV/EBITDA, PE and dividend yield (and others).

Reducing the allowed returns could see stocks de-rate more than a fundamental NPV. For example, even if the cost of equity was 5.5% real, and assuming a 2.6% cost of debt real and 25 year life the stock should fundamentally trade at RAB. However this would equate to a PE of 18.2x and a 12.0x EV/EBITDA. These are extremely high multiples and would be difficult to justify to general investors. I would think that a 5.5% real return would lead to the sector trading below RAB in the absence of other outperformance.

An existing regulated asset that is trading below RAB through systematic and regulatory risk (i.e. through something that new owners or management could not change) will not encourage new investment in the sector. If the markets value every incremental investment pound at less than par, investment will destroy incremental value for shareholders. An existing company will still invest until financially distressed in my view, as it will have a fiduciary duty towards its customers to do so. However I believe that financial distress could happen faster than anticipated. I believe that as soon as confidence is lost in equity markets, the credit markets will soon follow. Without the ability to raise credit a company will not be able to undertake investment.

I do not think that this is necessarily conducive to the requirement of bringing in c.£200-300bn of investment requirement across UK infrastructure.

8) Global utility returns are more attractive than UK utilities

Investors have an option to invest in any utility globally. One of the most common subjects in debates with investors is the allowed ROEs for both existing assets as well as future investments. The power of compounding is extremely important and a 100-200bp difference in ROEs could see the value to investors fall by 20-30% (DDM basis, 9% required return, 50% payout).

The other two main areas of publicly listed companies in RAB-based compensation markets are the US and Italy. US utilities providing returns c.9% on equity in investments, and Italy where returns on RAB are a basic 6.4% pre-tax real (with a further 3% 12-year kicker for new investments). I see equity returns in Italy in double-digits nominal returns.

With the UK needed up to £200-300bn in infrastructure investment over the coming decade, and a demand for capital in Europe and the US likely, I do not think reducing returns to this low level will incentivise global capital flows into UK infrastructure.

Yours sincerely,

Dominic Nash (Macquarie Securities)