FURTHER ANALYSIS OF THE COST OF DEBT FOR GDNS

OFGEM: GDPCR 2008 - 2013

August 2007

FINAL

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1. FURTHER ANALYSIS OF COST OF DEBT FOR GDNS

1.1. Summary

This short note provides some additional analysis of the arguments that have been made by non-National Grid GDNs about their inability to borrow very long-term at relatively low cost.

It suggests the following:

- Some of the non-National Grid GDNs have not accessed long-term debt markets at the same very low costs as National Grid, which has consistently accessed debt at a cost of below 2.0%.
- Nonetheless, the actual cost of debt of the non-National Grid GDNs for long-term issues is still, in our view, around 3.0% real - this is significantly below the 3.55% now being used by Ofgem as a modelling assumption.
- The difference in the cost and availability of debt between the National Grid GDNs and the non-National Grid GDNs is likely to be due to the actual levels of gearing and credit ratings achieved. Non-National Grid GDNs achieved BBB/BBB+ compared to A for National Grid GDNs. But this choice of actual gearing, which might be well above Ofgem's notional gearing, and the resulting impact on credit ratings and cost of debt is not relevant to Ofgem in setting the allowed WACC. Ofgem should set the allowed WACC based on an efficiently financed and operated GDN with a notional gearing.
- This note confirms that the CEPA estimate of the appropriate cost of debt of 3.0% remains valid despite the recent volatility in debt markets, as our approach had already taken account of long-term averages, current rates and significant mean reversion.

The remainder of this note provides the more detailed evidence which supports the above summary.

1.2. Structure of our further analysis

Section 1.3 provides context for the analysis, Section 1.4 then summarises information available on recent debt issues, Section 1.5 provides information on current risk-free rates of different maturities and Section 1.6 provides our conclusion.

1.3. Context

The allowed cost of capital should be set by the regulator based on notional gearing, rather than actual gearing. As noted in CEPA's April paper[1], the notional gearing assumed by the regulator should be set at a level consistent with an efficiently financed and operated company retaining a solid investment grade rating.[2] Our judgment, based on market evidence of regulated utility gearing, was (and remains) that the 62.5% notional gearing currently used by Ofgem is, if anything, relatively conservative.

The non-National Grid GDNs have all chosen to gear-up well in excess of 62.5%, as illustrated in Table 1 below.

Table 1: Gearing and credit rating

Company	Gearing[3]	Credit Rating[4]
National Grid Gas Plc	56%	A
Southern Gas Networks	73%	BBB
Scotland Gas Networks	74%	BBB
Northern Gas Networks	75%	BBB+
Wales and West Utilities	94%	BBB+

Source: Reuters / Bloomberg /GDN responses to Ofgem Initial Proposals

Table 1 also illustrates the current issuer credit ratings: National Grid, Northern Gas Networks and Wales and West Utilities have maintained a solid investment grade, whereas Southern Gas Networks and Scotland Gas Networks have an investment grade. Ofgem has noted that rating agencies have commented that ratings for non-National Grid GDNs are restricted by the lack of experience from the management teams[5] i.e. not only by gearing.

1.4. Market evidence on actual cost of debt

Table 2 below provides a summary analysis of the cost of debt at the time of the issue and the current yield to maturity / cost of debt for sterling debt issues by National Grid Gas and the non-Grid GDNs[6]. The debt issues reported for National Grid include bond issues in 2006 and 2007. The debt issues for the non-Grid GDNs were in 2005 at the time that they were divested - we are not aware of additional bonds issued since then.

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[1] CEPA - The Allowed Cost of Capital, Ofgem: GDPCR 2008-13, April 2007.

[2] A solid investment grade rating is assumed to be a S&P credit rating of BBB+, A- or A.

[3] Net debt: RAB as at March 2006.

[4] S&P issuer credit ratings are as at 25 July 2007, except for Wales and West Utilities. Wales and West Utilities credit rating was quoted as Baa1 from Moody's in its July 2007 response to Ofgem Initial Proposals. The S&P ratings are unchanged compared with March 2006.

[5] Ofgem: GDPCR Initial Proposals Document, May 2007, p89.

[6] We have not been able to identify debt in issue for Wales and West Utilities separately from its parent Macquarie European Infrastructure Fund.

Table 2 – Summary information on cost of debt

Company	**Debt** (approx yrs to maturity)	**Issue rating**[7]	**Coupon at issue**[8]	**Current yield to maturity**[9]
National Grid Gas[10]	Index-linked (real, 30- 40 yr)	A	1.6 – 1.9%	n/a
Southern Gas Networks	Fixed (nominal, 15-20yr)	AAA	4.9%	5.5 – 5.8%
	Index-linked (real, 20 – 30yr)	AAA	2.2%	n/a
Scotland Gas Networks	Fixed (nominal, 15-30yr)	AAA	4.8 – 4.9%	5.3% - 5.9%
	Index-linked (real, 15-20yr)	AAA	2.3%	n/a
Northern Gas Networks	Fixed (nominal, 25-35yr)	AAA	4.9%	5.3 – 5.5%

Source: Reuters / Bloomberg

Key points to note from Table 2 are:

- National Grid has consistently been able to issue A rated index-linked bonds at an 'all-in' real cost of less than 2.0%.
- The independent GDNs have issued a limited amount of (credit wrapped), AAA index-linked debt in the range 2.2 – 2.3%, excluding the cost of the credit wrap.
- The independent GDNs issued fixed rate debt with nominal coupons at issue of around 4.9%. Current yields to maturity on this debt are now in the range 5.3 – 5.5% at the longer maturities. Assuming inflation expectations in the range 2.5% - 3%, this suggests current real costs of debt in the range of 2.3-3.0%, before the cost of credit wraps.

Note that while both National Grid and the independent GDNs have made use of the index-linked markets, the precise level of index-linked debt that can be accessed by a regulated company will be related to its gearing in particular. This is because as the level of gearing increases banks may require the company to cash collateralise a proportion of the inflation linked bullet repayment / refinancing risk. The proportion of bonds that are index-

[7] The independent GDN bonds have all been credit wrapped to achieve AAA ratings.

[8] We assume the coupon is equal to the yield to maturity at issue, i.e. bonds are issued at par.

[9] Current YTM is only available (at this stage) for fixed rate, nominal bonds.

[10] We have only shown index-linked debt for National Grid, since the most recently fixed interest debt was issued in 2003.

linked for National Grid Gas Plc was around 35% as at March 2006. The proportion for the independent GDNs was lower at between 15-20%, potentially reflecting their higher gearing.

This higher actual gearing for certain GDNs should not be relevant to Ofgem's decision on the allowed WACC – Ofgem should set the allowed WACC based on an efficiently financed and operated GDN with notional gearing.

1.5. Current risk free rates and all in-debt issuance costs

1.5.1. Index-linked rates

Table 3 provides details of current and one-year average risk free rates on index-linked gilts of different maturities. It shows that although spot rates at all maturities are higher than they have been over the last year, they remain at very low levels. The credit spreads implied by index-linked gilt issues for A rated issuers are 70-100bp, indicating a current all-in real cost of debt for 30 year index-linked issues of 1.8-2.2%[11], well below the 3.0% recommended by CEPA as the allowed cost of debt.

Table 3: Cost of debt on index-linked debt

Index-linked gilt	Spot rate for index-linked gilts as at 31 July 2007	1 year average rate for index-linked gilts	Implied all-in current cost of debt
2024	1.640%	1.474%	2.3-2.6%
2027	1.399%	1.309%	2.1-2.4%
2035	1.200%	1.153%	1.9-2.2%
2037	1.086%	N / A	1.8-2.1%
2055	0.809%	0.843%	1.5-1.8%

Source: DMO

Table 4 provides details of long-dated index-linked debt issued by UK regulated utilities. It shows that regulated utilities have continued to issue long-dated debt at extremely keen rates.

Table 4: Recent issues of regulated company index-linked debt

Company	Rating	Amount	Issue Date	Coupon at issue[12]	Maturity
National Grid Gas	A	£100m	28-Mar-07	1.81%	28-Aug-37
National Grid Gas	A	£50m	16-Mar-07	1.76%	16-Apr-37
National Grid Gas	A	£100m	20-Feb-07	1.92%	20-Feb-37
National Grid Electricity	A	£50m	05-Apr-07	1.82%	26-Jan-39

[11] Derived from the 2035 and 2037 gilts.

[12] We assume the coupon is equal to the yield to maturity at issue, i.e. bonds are issued at par.

Company	Rating	Amount	Issue Date	Coupon at issue[12]	Maturity
National Grid Electricity	A	£150m	10-Apr-07	1.91%	02-May-39
Severn Trent	A	£100m	09-Feb-07	1.40%	09-Feb-57
Severn Trent	A	£50m	29-Jun-07	1.51%	01-Aug-58
Severn Trent	A	£50m	06-Jul-07	1.46%	01-Aug-58
United Utilities[13]	A	£100m	06-Apr-06	1.55%	06-Apr-46
Yorkshire Water	A-	£100m	11-Jun-07	1.71%	01-Feb-58

Source: Reuters

1.5.2. Rates implied by conventional gilts

Table 5 provides details of current and one-year average risk free rates on conventional bonds with nominal yields of different maturities. It shows that although spot rates at all maturities are higher than they have been over the last year, they remain at very low levels. Again allowing a credit spread of 70-100bp, these rates imply a current all-in real cost of debt for 30 year issues of 2.0-2.3%, well below the 3.0% recommended by CEPA as the allowed cost of debt.

Table 5: Risk free rates on nominal gilts

Deflated nominal Gilts[14]	Spot rate for nominal gilts as at 31 July 2007	1 year average rate for nominal gilts	Implied all-in current cost of debt
10 year Real Zero Coupon	2.020%	1.770%	2.7-3.0%
20 year Real Zero Coupon	1.370%	1.260%	2.1-2.4%
2036	1.339%	1.232%	2.0-2.3%
2046	1.167%	1.091%	1.9-2.2%
2055	1.048%	0.988%	1.7-2.0%

Source: DMO, Bank of England

[13] Included to illustrate the cost of debt for an Electricity Distribution Network Operator.

[14] BoE provides data on real yields on zero coupon securities as implied by the difference between nominal and index-linked bonds. But this dataset does not extend beyond 20 year maturities. In order to form a view of the risk-free rate on debt of longer-term maturities we have therefore considered the observed nominal yields on individual conventional gilts of long tenor as supplied by the DMO. To obtain real yields for these longer maturities, we have employed the BoE's forward looking market expectations of inflation for 20 year debt and assumed that this can be extended for longer time horizons without adjustment. We realise there is likely to be some differential between market expectations of inflation 20 years and 30 years from now, but believe that this is the best available methodology.

Our analysis of both the index-linked and nominal debt markets, which takes account of the recent market turbulence, confirms that the actual current cost of debt of the non-National Grid GDNs for long-term issues is still, in our view, around 3.0% real, and for National Grid below 3.0%.

1.6. Conclusion

The above analysis shows that the cost of debt for an efficiently financed and operated GDN is well below 3%, taking into account current market conditions, so our recommendation of a 3.0% allowed cost of debt allows for significant mean reversion. Furthermore, the actual cost of debt of the non-National Grid GDNs is likely to be around 3%. The non-National Grid GDNs may have a financing structure different from the notional structure assumed by Ofgem in setting the allowed WACC, but that is not material to Ofgem's decision[15].

[15] Ofgem reviews financeability separately, once it has assumed a notional capital structure and WACC.