Directlink Joint Venture

Directlink
Revenue Proposal

Attachment 6.1

Transitional approach to
estimating the cost of debt

May 2014

Introduction

The benchmark efficient entity of the allowed rate of return objective of rule 6A.6.2 is financed by equity and debt. The AER's Rate of Return Guidelines require that return on the debt financing the benchmark efficient entity be initially estimated using an "on-the-day" approach, with subsequent transition to a "trailing average" approach. The on-the-day and trailing average approaches are two of three approaches to estimation of the return on debt identified (without limitation) in rule 6A.6.2(j). The third is a combination of on-the-day and trailing average approaches (hybrid approach).

In the subsections which follow, Directlink describes its estimation of a return on debt using the on-the-day approach, and is concerned that the result does not satisfy the requirements of the regulatory regime. Directlink proposes an alternative method of estimation, moving directly to a trailing average approach with no need for a complex transitional approach. The alternative provides an estimate of the return on debt which satisfies the requirements of the NEL and the NER, and is used in determining the proposed revised reference tariff for the Directlink interconnector.

Estimating the return on debt

Directlink is of the view that an estimate of the debt risk premium, which leads to an estimate of the return on debt which meets the requirements of rule 6A.6.2(j)(2), can be made using credit spreads now calculated and published by the Reserve Bank of Australia. We examine the Reserve Bank credit spreads, and use them to estimate the return on debt for the Directlink Interconnector revenue proposal. That estimate is presented below.

Directlink's estimate of the rate of return on debt

Directlink has estimated a return on debt for the Directlink Interconnector using an on-the-day approach applying the AER return on debt model. We find that the application of the on-the-day approach in the way indicated in the Rate of Return Guideline does not, at the present time, satisfy the requirements of rule 6A.6.2, nor does it yield a return on debt which contributes to achievement of the Allowed Rate of Return Objective or the National Electricity Objective. Below we set out an alternative, trailing average, approach, and use this approach to estimate the return on debt for the Directlink revenue proposal. The trailing average approach satisfies the requirements of rule 6A.6.2 and yields a return on debt which contributes to achievement of the national electricity objective.

Using the on-the-day approach to estimate the return on debt

Since the initial use of the on the day approach, in the way proposed in the Rate of Return Guideline, does not lead to an estimate of the return on debt which can meet

the requirements of NEL 7A(2)(a) and Rule 6A.6.2, Directlink has examined an alternative approach using the corporate credit spreads now published by the Reserve Bank of Australia.

In December 2013, at the time the AER issued its Rate of Return Guidelines, the Reserve Bank commenced publishing new measures of credit spreads for Australian non-financial corporate entities. The new measures are estimated monthly from samples of issues which include bonds denominated in Australian dollars and in foreign currencies.

The samples of bond issues which the Reserve Bank uses to estimate credit spreads are restricted to fixed rate bonds issued by Australian non-financial corporations raising at least A$ 100 million, or the equivalent in United States Dollars or Euros. The samples include issues with embedded options at longer maturities (bullet bonds, callable bonds, convertible and puttable bonds). Bond price data are sourced from the Bloomberg BVAL service, and may be supplemented with Bloomberg generic price data or prices from UBS. Credit spreads on foreign currency issues are hedged into Australian dollar equivalent spreads (foreign currency risk is completely hedged). The spreads are measured relative to swap rates, and to rates on Commonwealth Government bonds.

The Reserve Bank has explained the method of estimation (relative to the swap rate) as follows:

(a) an aggregate credit spread is estimated for a given target tenor as the weighted average of the Australian dollar equivalent credit spreads over the swap rate for all bonds in the sample with the required credit rating; and

(b) the weights are determined by a Gaussian kernel that assigns a weight to every observation in the cross section depending on the distance of the observation's residual maturity from the target tenor according to a Gaussian (normal) distribution centred at the target tenor.[1]

At the time of the first issue of the credit spreads, the Reserve Bank advised:

> The paucity of Australian dollar-denominated issuance by NFCs, particularly at longer tenors, makes it impractical to estimate credit curves across a range of tenors solely from domestically issued bonds. Therefore, the sample includes bonds denominated both in Australian dollars and foreign currencies.[2]

The Reserve Bank credit spreads are calculated for a sample which includes non-financial corporations which issue debt in offshore markets. This clearly demonstrates that the benchmark efficient entity is an entity which would not limit its debt raising to debt raising in the domestic financial market. The Reserve Bank credit spreads take into account the issue of debt in offshore markets.

The AER's approach, in the way proposed in the Rate of Return Guideline, will not lead to an estimate of the return on debt which meets the requirements of rule

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1 Ibid., page 20.

2 Ivailo Arsov, Matthew Brooks and Mitch Kosev, "New Measures of Australian Corporate Credit Spreads", Reserve Bank of Australia Bulletin, December Quarter 2913, page 17.

6A.6.2 because no consideration is given to the issue of debt in offshore markets, when the benchmark efficient entity would be expected to issue at least a part of its debt in those markets.

The Reserve Bank credit spreads are available for non-financial corporations with BBB credit ratings, they are available for a term to maturity of 10 years, and they recognise that Australian non-financial corporations raise at least a part of their debt in offshore markets. The Reserve Bank credit spreads provide an alternative to the Bloomberg Fair Value curve for estimation of the debt risk premium.

In its recent issues paper, the AER has acknowledged the relative transparency of the Reserve Bank credit spreads, but has expressed concern about the composition of the bond sample used to estimate those spreads.[3] The Reserve Bank does not provide a list of the specific bonds used in its sample, and this raises the possibility that the characteristics of the issuers may not closely match the characteristics of the benchmark efficient entity.

The AER is also concerned that the Reserve Bank credits spreads are only available for the last day of a given month and, depending on the length of the proposed averaging period, this may lead to an estimate of the return on debt that reflects short term fluctuations.[4] The Reserve Bank provides credit spread series, consistently estimated, from January 2005, which allows the user of those series to make an assessment of any anomaly in spreads reported for a particular month.

The Reserve Bank has noted that its use of a Gaussian kernel recognises the fact that the observed spreads on bonds with residual maturities close to the target tenor contain more information about the underlying spread at that term to maturity than spreads on bonds with residual maturities further way. The method uses the entire cross section of bonds to establish a weighting, albeit with weights approaching zero as the distance of the bond's residual maturity from the target term to maturity increases. In this respect, the weighting scheme used by the Reserve Bank to obtain its credit spreads is superior to simpler weighting schemes, such as the scheme used in application of the bond yield approach applied by the Economic Regulation Authority of Western Australia.

The Reserve Bank advises that its use of the Gaussian kernel provides a robust method for estimation of credit spreads, capable of producing estimates even when the number of observations is relatively small.[5] Furthermore, the credits spreads obtained are similar to the corresponding measures produced by the Bloomberg service prior to late 2008. After 2008, the Reserve Bank advises, its credit spreads diverge from the Bloomberg measures, particularly during the period 2009 to 2011 when the Bloomberg measures appear "counterintuitive".[6]

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3 Australian Energy Regulator, *Return on debt: Choice of third party data service provider – Issues Paper*, April 2014, sections 4.4.2 and 4.4.3.

4 Ibid., section 4.4.6.

5 Ivailo Arsov, Matthew Brooks and Mitch Kosev, "New Measures of Australian Corporate Credit Spreads", Reserve Bank of Australia Bulletin, December Quarter 2913, page 20.

6 Ibid., page 24.

The Reserve Bank concludes that its new credit spread measures have a number of advantages over alternatives. These advantages are:

(a) the method of construction is more transparent;

(b) the sample is larger due to the inclusion of bonds issued in foreign currencies; and

(c) the method is relatively robust, allowing for the estimation of spreads at longer maturities than are available elsewhere.[7]

The AER is examining use of the Reserve Bank credits spreads in the estimation of the return on debt. The Independent Pricing and Regulatory Tribunal in New South Wales has advised that, from 1 July 2014, it intends to use the credit spreads in estimating the cost of debt.[8]

Using the trailing average approach to estimate the return on debt

The Reserve Bank of Australia series of credit spreads for non-financial corporations commence in January 2005. The spreads relative to the returns on Commonwealth Government bonds for issuers with BBB ratings issuing bonds with a term to maturity of 10 years range from 0.92% to 9.31%, with the highest spreads in 2008 and 2009, following onset of the Global Financial Crisis.

This substantial variation in credit spreads indicates a substantial variation in the cost of debt over the decade since 2005.

In the table below, Directlink shows the return on debt, calculated year by year, using the Reserve Bank credit spreads. The maximum return is the return calculated using the maximum value of the Reserve Bank credit spread for the year and the risk free rate estimated over the 40 trading days to the end of the month in which the maximum credit spread occurred. The minimum return is the return calculated using the minimum value of the credit spread for the year and the risk free rate estimated over the 40 trading days to the end of the month in which the minimum credit spread occurred. The average return shown in the table below is the average of the maximum and minimum returns.

Estimated return on debt 2005-April 2014

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Minimum	6.24%	6.45%	7.29%	8.56%	8.24%	8.12%	7.90%	6.61%	6.38%	7.36%
Maximum	6.62%	7.14%	8.52%	14.01%	11.71%	8.83%	8.19%	8.10%	7.60%	6.64%
Average	6.43%	6.79%	7.91%	11.29%	9.97%	8.47%	8.04%	7.35%	6.99%	7.00%

7 Ibid.

8 Independent Pricing and Regulatory Tribunal, *New Approach to Estimating the Cost of Debt: Use of the RBA's Corporate Credit Spreads – Fact Sheet*, February 2014.

If debt had been issued progressively, in equal annual amounts, to finance investment over 10 years (the average term to maturity of the debt issued by the benchmark efficient entity), the estimated return on that debt would have been between 7.24% and 8.81%. The average of these minimum and maximum returns would have been 8.03%.

Use of an on-the-day approach (the approach to be applied at the commencement of the transitional period) to estimating the return on debt leads to a rate which is significantly lower than the average return over the last 10 years.

The AER's transitional approach

The AER's *Rate of Return Guideline* proposes a long and complex transitional arrangements to move from the current "on-the-day" approach to the envisioned trailing average approach.[9]

Under this approach, the AER proposes to assess the allowed cost of debt initially using the "on the day" approach, gradually eroding the weight applied to that measure each year over a ten-year transition to the trailing average approach.

Directlink submits that the AER's adoption of the trailing average approach indicates that the AER has determined that the efficient financing costs of a benchmark efficient entity are to be determined in a way that reflects the efficient financing practices of the benchmark efficient entity – that is, that the benchmark efficient entity would finance its debt portfolio in a way that reflects that some proportion of its debt portfolio would be turned over every year, rather than an approach which assumes that the service provider would roll over its entire debt portfolio at five-year intervals.

This raises a significant concern in the context of the National Electricity Law. On the one hand, the AER has, in its Guideline, confirmed that the benchmark efficient entity would issue debt over the course of a ten year time frame, consistent with the trailing average approach. Interest expense incurred under such a methodology would clearly be efficiently incurred costs. We have demonstrated above that the interest costs associated with issuing debt over a longer time frame would be incurred at a rate of 8.03 per cent. Yet the AER, in its recent transitional decisions for Networks NSW and ActewAGL,[10] and TransGrid and Transend,[11] approved a cost of debt of between 6.7 and 7.5 per cent. This places the AER in demonstrable violation of the Revenue and Pricing Principles in NEL 7A(2)(a):

> **7A—Revenue and pricing principles**
>
> (2) A regulated network service provider should be provided with a reasonable opportunity to recover at least the efficient costs the operator incurs in

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9 AER, *Better Regulation Rate of Return Guideline* December 2013 s6.3.2.

10 AER, *Ausgrid, Endeavour Energy, Essential Energy, ActewAGL: Transitional distribution decision 2014–15*, April 2014p37.

11 AER, *TransGrid, Transend: Transitional transmission determinations 2014–15* March 2014, p26.

(a) providing direct control network services;

It follows, then, that were the AER to approve a return on debt using the "on the day" approach that resulted in a lower return on debt than the clearly observable average over the last ten years, the AER will not have approved a rate of return on debt that contributes to the achievement of the allowed rate of return objective (Rule 6A.6.2(h)), not met the Allowed Rate of Return Objective in Rule 6A.6.2(c) will have violated the Revenue and Pricing Principles in the National Electricity Law, and clearly will not have made a decision to progress the National Electricity Objective.

Directlink submits that, considering independent and reliable data is currently available to allow an immediate transition to the trailing average approach, it is incumbent on the AER to implement this approach immediately and dispense with the transitional process.

Directlink has estimated the return on debt using a trailing average approach with the length of the trailing average 10 years matching the average term to maturity of debt which would be issued by the benchmark efficient service provider. The same weight was applied to each term in the average, as would be the case if one tenth of the debt were refinanced each year.

The calculation of the trailing average commences in 2014, using Reserve Bank of Australia credit spreads for the period from January 2005. Data for 2014 are for the year to date only.

Directlink has assumed, but has not incorporated into its return on debt estimation, that the trailing average will be updated annually during the access arrangement period. The first update will take place immediately prior to the commencement of second regulatory year in the access arrangement period, and subsequent updates will take place at approximately 12 month intervals after that first update.

When the trailing average estimate of the return on debt is updated, the earliest estimate will be dropped from the average, and an estimate for the current year will be added. Each estimate will be made using:

(a) the risk free rate estimated as the yield on Commonwealth Government bonds with terms to maturity of 10 years; and

(b) the debt risk premium being the credit spread on the bonds of non-financial corporations, with credit ratings in the BBB band, and term to maturity of 10 years, as reported by the Reserve Bank of Australia.

Directlink's estimate of the return on debt for the first year of the regulatory period, obtained using the trailing average approach, is 8.03%.