Actual Debt Averaging Period – Additional Evidence

Summary

- AusNet Services maintains its position that the Bloomberg curve is not fit for use at this current time.

- This is because the Bloomberg curve places an inappropriately high weighting on the only bond in its sample with a residual maturity close to ten years.

- Moreover, this bond is issued by Asciano – a company that is currently subject to a takeover. Movements in this bond's yields are heavily influenced by company-specific factors, rather than the market conditions faced by a benchmark firm.

- The discrepancy between the yields reported by Bloomberg and the market conditions faced by a benchmark firm eventuated during AusNet Services' recent averaging period.

- AusNet Services has raised Bloomberg's dependence on a single Asciano bond with the AER in previous submissions. Given the AER is tasked with estimating the return on debt which would be required by debt investors in a benchmark firm, the AER is required to assess the accuracy of available curves to determine which should apply to AusNet Services.

- Given alternative, more accurate curves are available, it would be erroneous for the AER to place any reliance on the Bloomberg curve in AusNet Services' Substitute Determination.

Introduction

AusNet Services' actual averaging period for setting the cost of debt for the 2016 regulatory year took place from 25 January until 19 February 2016. Consistent with the previous concerns expressed by AusNet Services to the AER, it is not appropriate for the AER to rely on a simple average of the RBA and Bloomberg's 10 year Bloomberg Valuation Service broad BBB (BVAL) curve[1], or the RBA exclusively, as the BVAL curve did not reflect the return that would be required by debt investors in a benchmark efficient entity (BEE) over the averaging period. The BVAL curve's poor performance is due to its heavy reliance on a single bond, causing the curve to reflect movements specific to that bond rather than general market conditions.

AusNet Services submits that there is strong evidence to support its proposal that it is appropriate for the AER to have regard to either a simple average of the Reuters/RBA curves, or to the RBA curve alone as it is demonstrably superior to any methodology which relies on the BVAL curve. This is because it is based on a much

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[1] See Letter submitted by AusNet Services to the AER on 17 July 2015 – *Rate of Return Averaging Periods*, AusNet Services' Transmission Revenue Proposal (submitted 30 October 2015), AusNet Services' Distribution Revised Regulatory Proposal (submitted 6 January 2016), and 'AusNet Services' response to submissions on the Victorian EDPR Preliminary Decision' (submitted 4 February 2016).

broad sample of bonds with residual maturities of close to 10 years and has moved based on movements in the general market, rather than based on one bond alone.

That the BVAL relies heavily on a single bond is alone sufficient to render the BVAL curve inappropriate for use. This significant limitation of the BVAL curve is far more severe as the one bond on which it principally relies is issued by Asciano. Asciano is currently subject to a takeover, and, as demonstrated below, the yields of its bonds strongly depend on numerous market announcements regarding its takeover, rather than general market conditions that would be faced by a BEE.

As such, AusNet Services remains of the view that there is a strong basis upon which to conclude that the BVAL curve is not fit to apply in regulatory decision making at this time and that the RBA curve is clearly superior. Additionally, AusNet Services submits that, having regard to the evidence below, it would be incorrect to simply average the RBA and BVAL curves.

Background

Under the AER's Guideline transition, the first year's debt observation is highly material, comprising 80% of the debt allowance in the 2016-20 regulatory period, and 55% of the total debt allowance over the 10 year transition. As the correlation between the Asciano bond and BVAL yields is close to 1 (statistically significant to over 0.99), applying a 50:50 weighting on the RBA and BVAL curves in AusNet Services' first actual averaging period is equivalent to applying at least a 40% weight on the Asciano bond yield to determine the total debt allowance for the 2016-20 regulatory period (excluding the 4% weighting placed on this bond under the RBA's methodology). This percentage will increase if the BVAL curve continues to place a high weighting on Asciano in future years. This weighting is inappropriately high.

As the BVAL curve effectively measures the Asciano bond yield, and Asciano is a poor proxy for a benchmark efficient entity (including because it is currently subject to significant takeover activity), AusNet Services submits that the BVAL curve is currently not relevant to the AER's task of estimating the return on debt of a benchmark efficient entity. The application of the BVAL curve exclusively, or averaged with the RBA curve, in AusNet Services' Substitute Determination would be in error.

Adopting the trailing average requires third party data sources to be selected on an *ex ante* basis. A significant amount of regulatory risk would be borne by AusNet Services if an inappropriate debt data curve, such as the BVAL curve (exclusively or in a simple average), were applied to it during the 2016-20 regulatory period. While it could be argued that the regulatory risk of a curve not reflecting the market at any one time would be reduced by applying an average of multiple curves over the period, AusNet Services does not consider this to the case for the reasons set out below.

First, the AER's assessment of the curves can only be carried out once, at the beginning of each regulatory period. It would be incorrect to assume that, if one curve is performing poorly at the beginning of a regulatory period, a superior result will be achieved by applying an average of a currently poor performing curve and a

currently well-performing curve. Instead, a superior and reliable outcome is more likely if only the well-performing (in terms of providing more accurate estimates) curve were relied upon.

Second, NER 6.5.2(h) and (j)(1) imply that the return on debt must reflect that which would be required by debt investors in a BEE for a regulatory year. As there is currently a significant disconnect between the BVAL curve and the return on debt required by debt investors in a BEE, the application of the BVAL curve (exclusively or a simple average) in AusNet Services' Substitute Determination would fail to satisfy the requirements of the NER as the return on debt will not reflect that required by debt investors in a BEE. Therefore the application of the BVAL curve cannot best achieve the Allowed Rate of Return Objective (ARORO).

In a letter submitted to the AER on 17 July 2015, AusNet Services drew the AER's attention to an adjustment made to the BVAL curve following an observed discrepancy between the implied margin in the BVAL curve and the debt issuance by Asciano on 12 May 2015. At the time, AusNet Services' was concerned that the BVAL curve was not reflecting market conditions as it remained flat after the issuance of the Asciano bond for over a month, despite the Asciano bond reporting a substantially higher yield, and this bond most closely matching the 10 year term of the BVAL curve.

The AER's Preliminary Determination for AusNet Services contains the following footnote (Attachment 3, footnote 762):

> 'AusNet Services encouraged the AER to examine whether the new 10 year Bloomberg estimate was fit-for-purpose. It also noted recent correspondence it had with Bloomberg over an adjustment concerning Asciano. However, AusNet did not provide that correspondence to the AER. Further, Lally has examined the new 10 year estimate and concluded it is fit for the AER's purposes. AusNet, *Rate of return averaging periods for the 2016–20 regulatory control period*, letter to AER, 17 July 2015'

However, neither the AER nor Lally have had regard to the particular shortcomings in the BVAL curve raised by AusNet Services. Nor did the AER request that AusNet Services provide the correspondence from Bloomberg during the Q&A process (Attachment 1).

AusNet Services' concern, which led to a lag between market outcomes and yields reported by BVAL, is outlined in AusNet Services' Revised Regulatory Proposal (pg 7-35) and led to AusNet Services proposing to place no weight on the BVAL curve.

Since this time, and as described in AusNet Services' 4 February 2016 submission to the AER, the BVAL curve now appears to place almost exclusive weight on this Asciano bond, without any adjustments for the bond's non-standard features.

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BVAL's dependence on a single bond

Figure 1 – Asciano (labelled EK907291), BVAL, RBA and 7-13 year bond yields since May 2015
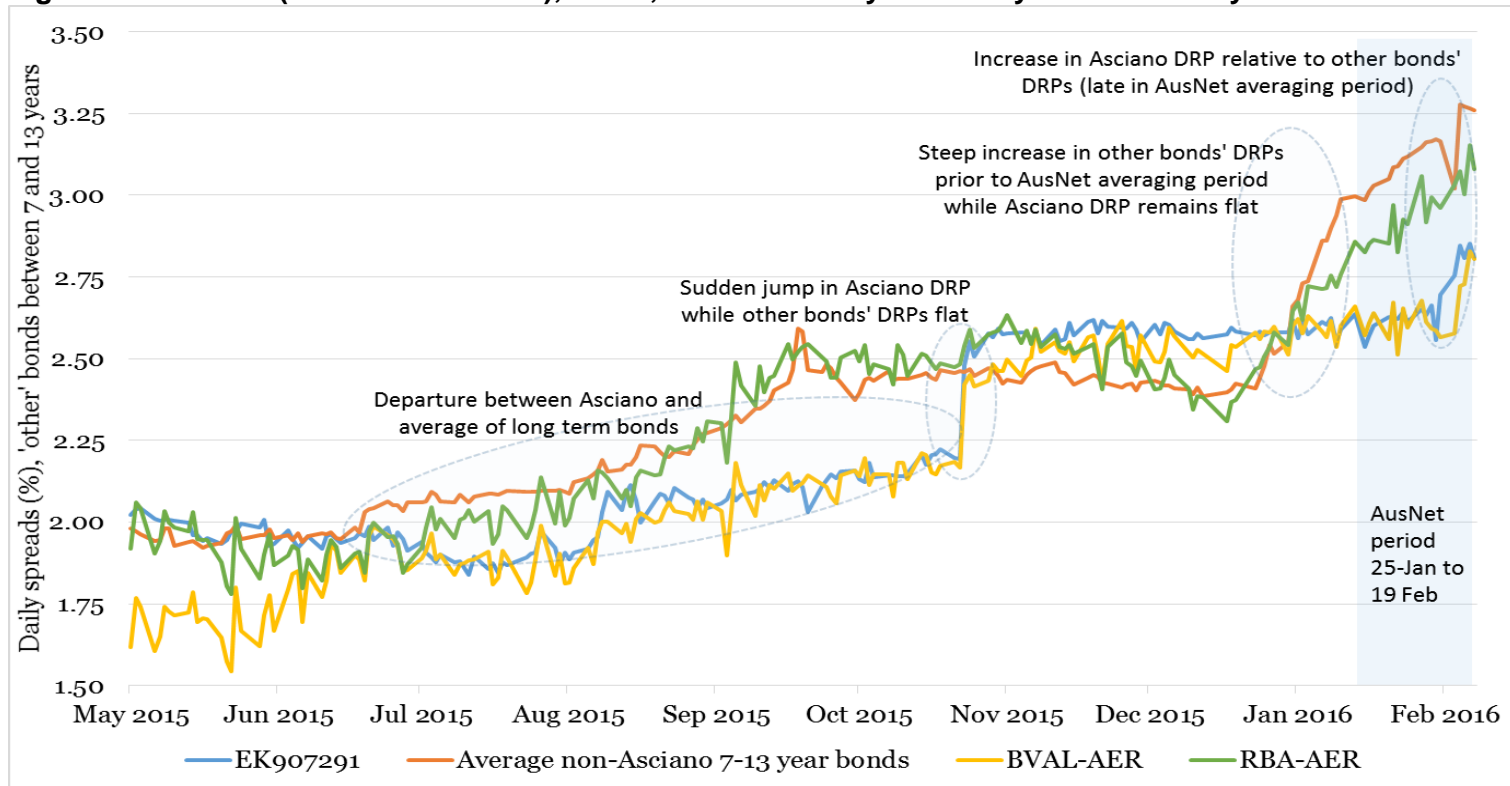
Source – CEG. The chart shows option-adjusted spreads calculated based on the RBA's published methodology. 'DRP' and 'spreads' are used interchangeably on the chart and refer to option-adjusted spreads.

Actual Debt Averaging Period – Additional Evidence

Figure 1 shows the movements in the 10 year Asciano bond issued on 12 May 2015 (EK907291) spread and the spread reported by the BVAL curve from May 2015 until the end of AusNet Services' averaging period. It is evident from visual inspection that movements in the Asciano bond and the BVAL curve are very highly correlated (this is demonstrated statistically in the next section).

The average spread for non-Asciano 7-13 year bonds is also shown, as are movements in the RBA curve (replicated by CEG to produce daily yields) applying the AER's extrapolation. The movements of these wider market spread measures are often at odds with the movements in the spread reported by BVAL. This is because the BVAL curve responds to market announcements related to the Asciano takeover, rather than the return on debt of a BEE. While it is difficult to precisely pin bond yield movements to specific events, an explanation of the most significant movements is provided in the Table below.

Table 1 – Analysis of Movements in Asciano Bond Yields

Date and Description of Break Point	Market Update	Rationale
3 November 2015 **Spread rose by 36 basis points over 2 days**	Brookfield Transaction Update	Qube (owning a 19.9% share in Asciano) does not intend to vote in favour of Brookfield bid – implies debt is relatively more risky
Mid-November 2015 to early February 2016 **BVAL/ Asciano spread remains relatively flat compared with wider market spreads, which increased significantly in January and February.**	Asciano remained subject to takeover bids by Brookfield over this period (note that, despite rejection of a particular offer by the ACCC over this period, it was announced that Brookfield remained interested in making a suitable offer).	Increase in general market spreads caused by financial market volatility due to macroeconomic uncertainty. Asciano bond yields remained relatively flat. As it was the subject of takeover bids by Qube and Brookfield – as a result the impacts on the change of ownership and its implications for these bonds would have overwhelmed general market influences on the price of the bonds in the secondary market*.
Early Feb 2016 **Volatility resulting in a rise in spread of 26 basis points between 12 and 16 February**	On 16 Feb, Asciano's Board recommended Qube's takeover bid, rather than Brookfield's.	S&P placed Asciano's BBB credit rating on review following Qube's takeover bid. So again, over this period specific company factors were impacting the price of these bonds.

None of the movements identified in the table above are related to market movements relevant to the identification of the return on debt required by a BEE. The 7-13 year bond sample and the RBA curves more accurately reflect the market

conditions of a BEE. In particular, the general rise in market DRPs over January and February 2016 due to financial market volatility was not picked up by the BVAL curve. Indeed, the BVAL curve did not report an increase in spreads until Asciano's Board endorsed Qube's offer (an event completely unrelated to wider market volatility) on 16 February, right at the end of AusNet Services' averaging period.

To the extent that the Asciano bond yields do provide information about the wider market movements, this information is captured in the RBA curve, albeit with a much more appropriate (lower) weighting, estimated to be around 4% by CEG (see Attachment 2, para 12).

The data paucity currently inherent in the BVAL curve has been confirmed in recent correspondence between Bloomberg and AusNet Services, in which Bloomberg states there is 'a real dearth of market observations beyond 5-7 years in the BBB corporate curve'.[2] This correspondence was submitted to the AER on 4 February 2016.

Statistical Analysis

The CEG memo submitted to the AER by AusNet Services with its 4 February 2016 submission has been updated as at 29 February 2016 to include AusNet Services' actual averaging period (see Attachment 2 – CEG Memorandum – Recent financial market conditions and the BVAL curve – updated 19 February 2016). The CEG memo also includes statistical analysis demonstrating a clear, strong and significant correlation between the movements in the Asciano bond and movements in the BVAL curve (see CEG Memorandum Appendix: Regression analysis). This shows:

- The only statistically significant determinant of the BVAL 10 year estimated spread to swap is the spread to swap on the Asciano bond, with a correlation of around 1.0 (significance level >0.99); and

- The percentage change in the Asciano bond spread has strong prediction power over the movement in the BVAL 10 year spread. When the spread of the Asciano bond increases by 1% the Bloomberg 10 year estimate increases by 0.91% (significance level >0.99).

Achievement of the ARORO

The AER's reliance on the BVAL curve (exclusively or averaged) will not best achieve the ARORO. The ARORO requires the rate of return for a DNSP to be commensurate with the efficient financing costs of a BEE with a similar degree of risk as that which applies to the DNSP in respect of the provision of standard control services. Given the BVAL curve's reliance on a single bond's yields (Asciano) which move in line with factors specific to the issuing company and have no relevance at all to the BEE, the application of the BVAL curve cannot best achieve the ARORO. Therefore, any reliance on the BVAL curve (exclusively or as an average) by the AER in AusNet Services' Substitute Determination would be in error.

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[2] Email from Bloomberg to AusNet Services, 27 January 2016

Rather, the AER could apply alternative third party data series, such as that published by the RBA, which is far more reflective of wider market movements. This is far more relevant to market conditions faced by a BEE.

AER's Assessment of Third Party Data Series

In the AER's Preliminary Determination for the Victorian Distribution Businesses (including AusNet Services), it summarises its reasons for considering that a simple average of the RBA and BVAL curves will contribute towards a return on debt that is commensurate with the efficient debt financing costs of the BEE. The AER's reasons are largely consistent with those applied in its late 2014 decisions (including for AusGrid and Jemena Gas Networks):

- *'Based on analysis of the bond selection criteria (including approach for identifying outliers), we consider that both approaches employed by the RBA and Bloomberg have their unique strengths and weaknesses, but we are not satisfied that either is clearly superior.*

- *Based on analysis of the curve fitting (or averaging) methodologies, we consider that both approaches have their unique strengths and weaknesses, but we are not satisfied that either is clearly superior.*

- *Both curves require adjustments from their published form to make them fit-for-purpose, and we are not satisfied that either can be more simply or reliably adjusted to estimate the annual return on debt.*

- *A simple average is consistent with expert advice from Dr Lally that we adopt a simple average of the BVAL curve and the RBA curve, subject to the necessary adjustments to each curve. [727] In particular, Lally concluded that based on analysis of the curves, it was reasonably likely that a simple average of the two curves would produce an estimator with a lower mean squared error (MSE) than using either curve in isolation. Lally also advised:*

  …on the question of which index better reflects the cost of debt for the efficient benchmark entity, there is no clear winner.

- *The two curves have regularly produced materially different results at particular points in time. Both curves have their strengths, but it is not clear to us that one approach is clearly superior. Consequently, when the curves depart, we do not consider it is easily discernible which curve produces estimates that better reflect the efficient financing costs of a benchmark efficient entity. We also note that the BVAL curve has produced estimates both higher than, lower than, and similar to, the RBA curve, depending on the particular point in time. So there is no clear indication that one curve produces systematically higher or lower estimates than the other.*

- *A simple average of two curves, in these circumstances, is consistent with the Tribunal's decision in the ActewAGL matter where the Tribunal concluded that:*

> *…if the AER cannot find a basis upon which to distinguish between the published curves, it is appropriate to average the yields provided by each curve, so long as the published curves are widely used and market respected.*
>
> - *A simple average of the two curves will reduce the likely price shock if either curve becomes unavailable or produces erroneous estimates during the period.'*(footnotes omitted)[3]

While we acknowledge the points raised in the AER's assessment extracted above, at the current time AusNet Services submits that there is strong evidence that the RBA curve is clearly superior to the BVAL curve. This is due to the paucity of bonds with a term to maturity of close to ten years that satisfy Bloomberg's bond selection criteria. The sample size of bonds with an appropriate term to maturity produced by the use of the RBA's and BVAL's bond selection criteria does not appear to have been explicitly considered by the AER when assessing the various curves. AusNet Services submits that this is a critical matter, particularly given the current circumstances where the Bloomberg selection criteria effectively result in an almost exclusive reliance on a single, non-representative, bond i.e. the Asciano bond.

In contrast, the bond sample underpinning the RBA curve includes 11 bonds with residual maturities between 8 and 12 years (see Attachment 2, para 9).

The AER's Preliminary Determination also sets out Dr Lally's advice on 'Points of Distinction' between the RBA and BVAL curves as identified by the ACCC's Regulatory Economics Unit (REU).[4]

Again, while AusNet Services acknowledges the results of this assessment, it considers that a point of distinction which should be added to this list is 'BVAL is heavily weighted towards a single (or inappropriately small number of) bond(s), issued by a company (or companies) not representative of the Benchmark Efficient Entity'. This is a consequence of several of the points of distinction (being 5, 7 and 8) which set out the bonds excluded from Bloomberg's sample and the characteristics of current bonds. This additional point of distinction results in a strong preference for the RBA curve. Without a criterion that considers the implications of the sample selection of the two curves on the performance of the curves, there is no safeguard for the situation that has occurred since mid- to late-2015.

In relation to the relative importance of the different 'points of distinction', this will depend on how strongly the assessment undermines the curves' ability to more accurately reflect the market conditions faced by a benchmark efficient entity. AusNet Services' considers that reliance on a single, non-representative bond severely jeopardises the ability of the BVAL curve to accurately reflect the market conditions faced by a benchmark efficient entity, such that the BVAL curve is not fit for application in the regulatory process.

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[3] AER, AusNet Services' Preliminary Determination, p. 3-224 and 3-225.
[4] AER, AusNet Services' Preliminary Determination, Table 3-29.

Tribunal Considerations

The heavy weighting on specific bonds in determining the regulated cost of debt has been considered in previous appeal processes. Key implications of relevant Tribunal decisions for the current distribution determination process are explained below.

26 February 2016 Decision (Networks NSW)

Networks NSW challenged the AER's application of the BVAL curve and submitted that only the RBA should be relied upon, on the basis that the Bloomberg curve (previously the BFV curve) historically performed poorly in response to market events, and the RBA's methodology is relatively more transparent than Bloomberg's.

The Tribunal ruled in favour of the AER on this matter as, although there are arguments for the sole use of the RBA curve, Networks NSW did not successfully establish a ground for review. In particular, the AER was not shown to have misunderstood or overlooked material information and therefore did not make an irrational decision by applying a 50:50 weighting of the RBA and BVAL curves.[5]

Implications – The material submitted by AusNet Services demonstrating the statistical link between the Asciano bond yields and the BVAL curve was neither before the AER during the Networks NSW determination process, nor before the Tribunal. It is new and material information that should be taken into account by the AER in selecting the most appropriate third party debt data series for the AusNet Services Substitute Determination which distinguishes the RBA curve as the superior curve.

6 January 2012 Decision (Victorian Distribution Businesses)

Jemena Electricity Networks challenged the AER's weighting of 25% on a single bond (issued by APT) to derive the DRP over its averaging period for several reasons, including that the APT bond was not representative of the Australian benchmark corporate bond rate and its yields were unusually low.

The Tribunal expressed concerns about the appropriateness of the APT bond, and specifying that the reference group of bonds '*should include corporate bonds as a whole, and not just infrastructure or specific industry bonds, nor should it give particular weight to certain company's bonds.*' (para 438).[6]

The Tribunal noted that the AER should have accounted for 'factors which might affect the spread on the APT bond only and not the whole market.' (para 457)[7]

Implications – The Tribunal has found the AER's practice of placing a high weighting on a particular bond to be erroneous. To avoid falling into error, the AER must take into account factors that might affect the spread on a particular bond, rather than the whole market. To date the AER has not explained why placing such

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[5] *Applications by Public Interest Advocacy Centre Ltd and Ausgrid* [2016] ACompT 1 at [983].
[6] *Re Application by Jemena Gas Networks (NSW) Ltd (No 5)* [2011] A CompT 10; (2011) ATPR 42-360
[7] *Ibid* at [457].

a high weight on the Asciano bond is appropriate and relevant to estimating the return on debt of a BEE. As noted by the Tribunal, "is important for the AER to estimate the DRP and other WACC components with rigour and transparency" and "[its] estimating practices, data sources and reference periods must be well articulated, consistent and communicated to the parties".[8]

17 September 2010 Decision (ActewAGL)

ActewAGL challenged the AER's exclusive application of the CBASpectrum curve, considering that a simple average of the CBASpectrum curve and the Bloomberg curve should be applied instead. This was on the basis that the AER's curve testing methodology (which favoured CBASpectrum) did not include a broad enough sample of bonds.

The Tribunal concluded that *'If the AER cannot find a basis upon which to distinguish between the published curves, it is appropriate to average the yields provided by each curve, so long as the published curves are widely used and market respected.'*[9]

In addition, the Tribunal identified the following (non-exhaustive) approaches which the AER could apply to distinguish between competing curves:

1. if sufficient information is available, the AER could examine and compare the merits of the publishers' methodologies and data sources, as it has done in the past

2. the AER could determine which curve has performed better in the past

3. the AER could compare relevant observed yields against the published fair value curves and an average of these curves. This would require the following steps:

   a) assemble a representative population of observed yields of sufficient number and term to maturity. It is difficult for the Tribunal to provide any hard and fast rule for determining whether a population is "representative". A representative population would contain many bonds after the point at which the curves diverge. It should contain bonds with a term to maturity close to 10 years. The AER should include floating rate bonds and/or bonds with observations available from one or two sources in the population unless there is good reason to exclude them. The inclusion of these bonds may raise questions which the AER will need to address in the future, such as the weighting that should be given to them;

   b) only exclude bonds where there are sufficient qualitative reasons to consider that they are not correctly classed as being part of the relevant population;

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[8] *Re Application by Jemena Gas Networks (NSW) Ltd (No 4)* [2011] A CompT 10 at [461].
[9] *Re Application by ACTEWAGL Distribution* [2010] ACompT 4; (2010) ATPR 42-324]

c) once a representative set of bonds has been chosen and refined in this way, select the fair value curve that most closely corresponds to the relevant set;

d) use any other available information, such as observed yields on other rated bonds, to check that the selected fair value curve remains likely to provide the best estimate.

Implications – While the Tribunal concluded that it may be appropriate to average the yields provided by each published curve if there is no basis to distinguish between them, AusNet Services considers that the evidence presented here (and in its previous submissions) provide a very strong basis to distinguish between the BVAL and RBA curves so that an average is not appropriate.

In relation to point 3, in encouraging the AER to compare relevant observed yields against published fair value curves, the Tribunal suggests bonds could be excluded from a 'representative population of observed yields' if there are sufficient qualitative reasons to consider that they are not correctly classed as being part of the relevant population. AusNet Services considers the Asciano bond falls into the category of bonds that should be excluded as the recent takeover activity has been the primary influence on its yields. Given the BVAL curve tracks the movements of a bond which should be excluded from the representative population (this has been demonstrated statistically), the BVAL curve cannot be considered to be representative of market conditions faced by a BEE.

Superiority of RBA Curve

Given the material evidence contained in this submission (and those previously made by AusNet Services) that the BVAL curve does not currently reflect the return on debt of a benchmark efficient entity, there is persuasive evidence to warrant the AER placing no weight on it in its Substitute Determination.

Given the BVAL curve's reliance on the Asciano bond, AusNet Services considers the RBA curve is clearly superior to BVAL.

AusNet Services' position is supported by the assessment against the criteria contained in CEG's January 2016 report 'Criteria for Assessing Fair Value Curves' submitted to the AER as part of AusNet Services' Revised Regulatory Proposal.

Table 2 from the CEG report 'Assessment against criteria' is reproduced below.

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Criteria	RBA	Bloomberg	ERA	Reuters
Dataset matches benchmark	Yes	No	Yes	No
Large dataset	Yes	No	Yes	No
Transparent bond selection and curve fitting methodology	Yes	No	Yes	No
Independent and reputable and regularly published	Yes	Yes	Not independent or regularly published	Yes
Track record of accuracy	Yes	No	No	No

CEG conclude that 'RBA is clearly the best performer against the five criteria. Consequently, if one were to limit oneself to choosing one, or a set of predetermined sources, with predetermined weights we consider that the RBA source should be selected with 100% weight.'[10]

This view is consistent with the CEG Memorandum (Attachment 2) which confirms that the RBA curve more accurately captures market conditions than the BVAL curve over AusNet Services' actual averaging period[11].

Conclusion

Applying the BVAL curve in the AER's Substitute Determination will not contribute to the achievement of the ARORO (or the NEO) and would be erroneous, given the performance of the curve. There are other published curves, such as the RBA curve, that reflect the market conditions faced by a BEE much more accurately.

In its Revised Regulatory Proposal, AusNet Services proposed a 50:50 weighting of the RBA and the Reuters curves. Limited analysis had been carried out on the performance of the Reuters curve at the time of submission. AusNet Services acknowledges that the Reuters curve has only recently been published and warrants further investigation. However, it is currently reporting yields relatively close to those estimated by the RBA, which provides an initial confirmation that the Reuters curve reflects prevailing market conditions.

If the AER is not minded to accept the use of the Reuters curve, AusNet Services considers that the RBA curve should be applied exclusively, for the reasons outlined in this submission and supporting documentation.

If the AER requires AusNet Services to provide any further analysis or statistical testing, AusNet Services can do so at the AER's request. It will be an unsatisfactory outcome if the AER were to not accept AusNet Services' Revised Proposal in relation to curve selection because it required additional evidence to be provided which was not communicated to AusNet Services in advance of its Substitute Determination.

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[10] CEG, *Criteria for Assessing Fair Value Curves,* January 2016, p. 11.
[11] See, for example, paras 12 and 14.