

**C**onsumer  
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**P**anel

**Submission to the Australian Energy Regulator (AER)**

**Consumer Challenge Panel**

**Submission to the AER on its Allowed Rate of Return on  
Debt Discussion Paper**

**Sub-Panel 16**

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# 1 Introduction and Summary

## 1.1 Background

In the 2013 Rate of Return Guideline (2013 Guideline) the Australian Energy Regulator (AER) adopted a new approach to estimating the Return on Debt (ROD) to replace the previous 'on-the-day' approach. The new approach involved estimating a 10-year trailing average (10-year TA) ROD with automatic annual updating, for a benchmark efficient entity with a credit rating of BBB+. The 2013 Guideline also stated that the ROD estimate would be derived by reference to the 10-year yield curve(s) provided by an independent third party data provider(s), but the Guideline did not identify which third party providers would be used. After an extensive examination of the third party providers available, the AER determined in 2015 to use a simple average of the 10-year yield curves provided by two independent data service providers: the Reserve Bank of Australia (RBA data series) and Bloomberg (BVAL data series).

The AER's new approach was widely accepted by the industry and consumer representatives on the basis that the new approach was preferable to the previous on-the-day approach. The view was that the 10-year TA approach more closely reflected how the networks raised debt and would also provide more stable and predictable outcomes that would benefit both networks and consumers compared to the perceived 'lucky-dip' of the on-the-day approach.<sup>1</sup>

More controversially, the AER also adopted a 10-year transition period to move towards the 10-year TA. The AER argued that a transition period was required in order to ensure revenue neutrality over the life of the network assets. A transition period was accepted by consumers and by some networks but was vigorously opposed by other networks. The Tribunals and the Federal Court have more recently endorsed the AER's approach to transition. The continuation of the transition process has not been challenged by the networks or by their advisors during the development of the new binding instrument to replace the 2013 Guideline.

In more recent regulatory determinations, however, some networks have challenged the AER's approach of averaging the RBA and the BVAL series. For instance, some networks have suggested either adding a new series, the Thompson-Reuters series (TR) or replacing BVAL with the TR series.<sup>2</sup> While the AER has not adopted this change in approach in current determinations it is committed to considering the issue as part of the Guideline review.

The position of the majority of the networks and their advisors with respect to the new binding Guideline is for the AER to continue its current approach of estimating the ROD using a 10-year trailing average for the broad BBB yield series and to also consider other bond series providers such as TR and a relatively new series produced by Standard and Poor (S&P) to replace or add to the existing two series.

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<sup>1</sup> Not all commentators accepted the 10-year TA approach. Professor Partington, for instance, has consistently critiqued the 10-year trailing average as being inconsistent with financials principles. He continues to promote the 'on-the-day' approach.

<sup>2</sup> For example, in 2016 some of the Victorian gas networks proposed using the TR series to supplement or replace the AER's approach to average RBA and BVAL curves. Other networks have also supported this proposal.

Consumers have raised concerns with the more fundamental decision of the AER to adopt the broad BBB series in the context of the AER's other assumption (supported by empirical analysis) of a BBB+ credit rating for the benchmark efficient network entity (BEE). Irrespective of the series chosen, the use of a broad BBB range would overstate the actual debt costs of the BEE. CCP16 has previously supported consumers' concerns with the bias inherent in adopting the broad BBB 10-year series. CCP16 has argued in its response to the AER's Issues Paper that both the credit rating (broad BBB) and the debt term (10 years) will contribute to this bias.

Since the publication by the AER of its Issues Paper, the AER has published a Discussion Paper that provides new details on the 10-year BBB bond yield data series produced by S&P.<sup>3</sup> The AER has also published a report by the Chairmont Group (Chairmont)<sup>4</sup> that addresses the question of whether the AER's current ROD approach and ROD determinations adequately reflect the real benchmark ROD of the networks. Chairmont has also been asked to consider if the current approach can be amended to achieve a better, more balanced determination on the ROD consistent with the NEO, NGO and RRP.

## 1.2 Summary

Given this background, CCP16 therefore considers that the AER must address three fundamental questions in the development of its new Guideline. They are:

1. What data series, or combination of data series provides the best estimate of the ROD for the BEE?
2. Irrespective of the provider of the service, is a broad BBB yield series an unbiased estimate of the cost of debt for an efficient network provider providing regulated network services?
3. If the broad BBB series is not an unbiased estimate of the ROD, what options does the AER have available to it to address this bias?

To address the first question, it is necessary to look at the inherent characteristics of the four curves currently under consideration, and to consider which series or combination best matches the characteristics of the BEE.

The second question can be considered from both a theoretical and empirical perspective. Are the credit characteristics of a BBB+ rated network firm sufficiently different as compared to the 'average' characteristics of the broad BBB category that includes all firms? From an empirical perspective, the question can be addressed by a more direct examination of the actual debt costs of the network firms. The analysis by Chairmont (April 2018) of the debt portfolios and strategies of the networks provides empirical evidence that the actual costs of debt of the network firms may be lower than the ROD that is currently estimated by the AER.

The third question raises a different set of issues for the AER. The more recent decisions by the Australian Competition Tribunal (Tribunal) and the Federal Court have found there to be no error in the AER's current approach to estimating the ROD. Nor did they find error in the AER's adoption of a 10-year transition period. Nor have the Tribunals and Court found error in the application of a 10-year transition period to the trailing average. Rather, they accepted the AER's reasoning that adopting the 10-year transition period would best achieve the objective of 'revenue neutrality'.

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<sup>3</sup> AER, *Discussion Paper, Estimating the allowed return on debt*, May 2018.

<sup>4</sup> Chairmont, *Aggregation of Return on Debt Data*, 28 April 2018.

Given this, another significant change in the approach to estimating the ROD ‘mid-stream’ of the existing transition period would challenge the principle of maintaining revenue neutrality when there is a change in approach. In addition, there would be many practical implementation issues such as ‘recreating’ a historical series in order to continue to apply the 10-year trailing average with transition methodology.

It is not surprising therefore that most stakeholders, including the majority of the experts in the AER’s Concurrent Evidence Sessions (CES), supported the continuation of the AER’s current approach. However, there were more disputes around the assumptions within that overall framework, such as the credit ratings, gearing levels, and third party providers of bond yield curves.

Moreover, consumer representatives in their submissions to the AER’s Issues Paper reinforced the widely held view that the AER’s allowed ROD was too high compared to the actual costs of debt. In turn, this outcome reflected, inter alia, the AER’s excessively conservative assumptions about the term and appropriate credit rating. On the other hand, the NSPs have been more inclined to dispute the AER’s selection of third party providers of yield curve. In particular, there was some support for adoption of the TR 10-year yield curve to supplement or replace the BVAL series. Almost all parties, however, accepted the AER’s use of the RBA bond series.

CCP16’s position on many of these issues has been set out in our response to the AER’s Issues Paper,<sup>5</sup> a summary of which is included in this submission.

CCP16 recommended among other things that the AER maintain its current approach of averaging the two series (RBA and BVAL) rather than replacing or adding in a new series, the TR series. In addition to various practical complexities, CCP16 considered that the TR series had some gaps in the historical data and did not add sufficient new information to the BVAL series to warrant its inclusion in the series at this stage. However, we recommended that the AER should continue to monitor the TR series, and to develop its own database on the actual debt raising practices of the networks and the costs of this debt.

Since the publication by the AER of its Issues Paper, the AER has now published new details on the 10-year bond yield data series produced by S&P. The AER has also published a report by Chairmont. In its terms of reference for this report, the AER states that the purpose of the proposed report is to:<sup>6</sup>

*...use this data to support our analysis of whether our current choice of data series or possible alternative choices of data series produce outcomes that are reasonably consistent with the actual costs of issuing debt faced by the service providers (the analytical goals).*

CCP16 considers that the Chairmont report makes an important contribution to the discussion on the AER’s approach to assessing the efficient benchmark ROD for the networks.

It is clear from Chairmont’s analysis that:

- The networks have considerable flexibility in how they raise debt including the type of debt, tenor and volume of debt in any period and are therefore able to respond to prevailing

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<sup>5</sup> See CCP16, *Submission on the Rate of Return Issues Paper*, December 2017.

<sup>6</sup> See Chairmont, *Aggregation of Return on Debt Data*, 28 April 2018, Appendix 1, p15.

conditions in a more dynamic way than envisaged in the AER's 10-year static trailing average approach.

- The overall cost of debt across the networks is lower than the AER's allowed benchmark ROD. Chairmont suggests that this is due to the following:
  - The AER's static approach of a 10-year trailing average does not reflect the actual practices of the networks, who respond far more dynamically (and rationally) to the market conditions for debt.
  - The AER's use of a broad BBB credit rating for the 10-year bond yield curve is not consistent with the actual credit ratings of the majority of the businesses
- Of the four 10-year bond yield series under consideration by the AER, none of the individual series replicates the actual aggregated debt costs and profile of these costs that was revealed by the Chairmont study. The closest representation of the actual debt costs comes from the combination of all four data series (noting this is based on a simple average of the four series).

Notwithstanding this last statement, CCP16 recognises that the AER is limited in the extent to which it can change its approach to the assessment of the ROD. There are clearly many complications and limitations of Chairmont's analysis that will require further refinement before it can contribute directly to the AER's ROD assessment, particularly in the context of the current methodology.

However, this does not mean that the results of the Chairmont analysis have no role to play in the new Guideline. The AER and other stakeholders now have a much clearer picture of the debt raising practices of the networks. While the results are not determinative, they clearly confirm the view of consumers and of CCP16, that the AER's current approach to the ROD is conservative. That is, on average, the AER's current approach will over time produce a biased result that overestimates the efficient benchmark ROD. This is an outcome that is not consistent with satisfying the NEO or NGO.

CCP16's recommendations seek to address in part this conservative bias while recognising the importance of maintaining a consistent and transparent regulatory framework. However, taking into account Chairmont's findings, we consider that an improved outcome can be achieved within the AERs current overall approach of a 10-year trailing average, with annual updates and a continuation of the transition process. This improved outcome can be achieved by:

- Adopting a weighted average of the broad 'A' and broad 'BBB' 10-year credit series, noting that the optimal weighting of the two series is still an open question (the AER has tested 1/3 'A' to 2/3 "BBB' but other combinations are feasible); *and*
- Adding a third series (TR) to the averaging process with a preliminary suggestion of weighting the RBA 50%, BVAL (25%) and TR (25%).

However, CCP16 also considers the S&P debt series has several advantages and is likely to 'add information' to the final estimate of the 10-year bond rate. If the AER is able to obtain a reliable history of 10-year yields from S&P (rather than just the current 4 years), then our preferred option would be:

- Adding both TR and S&P to the averaging process with a preliminary suggestion of weighting the RBA 50%, BVAL 16.6%, TR 16.6% and S&P 16.6% (rounding).

In the above weighting of the different series, CCP16 has retained a 50% weighting on the RBA series. Compared to the other series, the RBA 10-year curve, despite its limitations, is widely accepted by all stakeholders as being more transparent and provided by a genuinely independent body that uses information from a variety of sources rather than a single proprietary source. We encourage the AER to undertake further investigation of this weighting using the criteria that it has already set out for selection of bond series, adding to that the data provided by the networks on their actual debt raising practices and costs of debt.

In CCP16's view, all of the above suggestions are all 'workable' within the current framework and are consistent with the long term interests of consumers, and the need to enable networks to recover their efficient costs of debt while maintaining scope and incentives for networks to improve on the benchmark debt costs.

However, while the suggested approach will reduce the risks of over-compensation it may not eliminate them. For instance, the AER's current reliance on the historical average of 10-year bonds fails to reflect the reality of how networks typically raise debt and the average tenor of this debt, as Chairmont has clearly illustrated.

Given this, there is a very real risk that continuation of the AER's overall approach (albeit with the adaptations outlined above) will result in a long-term bias in the AER's compensation for ROD.

CCP16 has already stressed in its May 4 response to the AER's Discussion Papers and the two concurrent evidence sessions that the AER needs to adopt a more balanced approach to making its decisions on the Rate of Return (ROR) parameters. The time for adopting a conservative bias in the estimation of each of these ROR parameters (such as selecting the top of the range of observations) has now passed.

The AEMC's rule changes have also directed the AER's attention to the overall ROR rather than individual parameters. Now that Chairmont's study has confirmed the intrinsic conservative bias in the current approach to the ROD, the AER needs to take this bias into account when assessing the overall ROR.

### 1.3 Recommendations:

- The AER continue to investigate the properties of the utility index proposed by Chairmont while also conducting further investigations of the relevance and reliability of the four 10-year bond yield series.
- The AER further investigate adopting a weighted average of the broad 'A' credit rated 10-year bond curves and the broad 'BBB' rated 10-year bond curves, including the assessment of the optimal weighting of the two curves.
- The AER liaise with S&P to determine if S&P can provide a relevant historical series.
- The AER further investigate the optimal weighting of each of the four bond series bearing in mind our preference for the RBA series to be used as an 'anchor' for the other series.
- To the extent that the benchmark ROD that is calculated by the AER is still above the actual costs of debt (having considered all the options to improve the estimate listed by CCP16 and others), the AER will need to take this bias into account in its final estimation of the efficient ROR.

## 2. Summary of CCP16's Submission to the AER's Issues Paper

### 2.1 CCP16 endorsed the overall approach by the AER

In its submission to the AER's Issues Paper CCP16 considered the options set out in the 2012 rule amendments that were available to the AER in determining the return on debt. These options were to retain the existing 'on the day' approach, an 'historical trailing average' method and a 'hybrid methodology' that combines elements of both. The 2012 rule changes also required the AER to consider the impact on the BEE of a change to the methodology.<sup>7</sup>

Overall, CCP16 concluded that the AER's current approach of using a 10-year historical trailing average with annual updates, with transition remained appropriate in the circumstances – particularly given that the most of the regulated networks will be well into the transition process by the time the new binding Guideline comes into effect.

CCP16 argued that any change in approach in the new binding Guideline would create significant uncertainty for all stakeholders and would not be consistent with revenue neutrality principles that underpinned the regulatory decision making process. As such, there must be a 'high bar' to justify changing the current approach, particularly given the process is in 'mid-stream' and given that the transition approach has been endorsed by various Tribunals and the Federal Court largely on the principle of 'revenue neutrality'.

CCP16 also emphasised that as the process of transition to a trailing average comes to completion, the interest rates mismatch risks (and associated interest rate swap costs) facing networks under the 'on-the-day' approach will be largely eliminated. Both of these risks have been identified by the networks as an issue for them under the previous 'on-the-day' approach, and the reduction in these risks should, therefore, be reflected in a reduction in the overall WACC and, in particular, the debt risk premium (DRP).

### 2.2 CCP16 did not support the inclusion of the TR yield curve

Overall, CCP16 supported the principle of using independent third party data service providers notwithstanding the issues around transparency and the potential risks of a series being closed or substantially altered. However, we argued that the AER should also progressively develop its own data base on actual bond issuance activities by the networks (see section 2.3 below).

Given this, CCP16 considered the AER's current approach of averaging the RBA and BVAL series was a reasonable approach given the limitations of each of the two series.

CCP16 also supported the AER proposed bond series selection criteria for and the 'implementation' rules including fixed rules about how to respond to events such as the cessation of publication of a series. We encouraged the AER to continue to monitor the performance of any new data series on debt such as the TR and S&P yield curves by reference to these selection criteria.

CCP16 noted the very useful work of the ACCC's Regulatory Economic Unit (REU) in evaluating the three third party bond yield series was noted by CCP16. This report highlighted to us the similarities and differences between the current yield curves (RBA and BVAL) and the alternative TR series.<sup>8</sup> It

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<sup>7</sup> See NER, cl 6.5.2(k)(4) and 6A.6.2(k)(4) and equivalent rule in the NGR.

<sup>8</sup> ACCC REU, *Thomson Reuters credit curve methodology – Note for the AER*, April 2017.



was clear that all three series investigated by the REU included multiple assumptions and data manipulations (including extrapolation and interpolation) to calculate their respective yield curves many of which might impact on the final output of the curves.

However, we also advised the AER that it should exercise ‘considerable caution’ when moving beyond the simple averaging of the established two series. CCP16 concluded that:<sup>9</sup>

*... on the evidence to date, there does not appear to be any significant value in adding a third series such as the TR series particularly when the current approach has been accepted by the Tribunal as reasonable.*

The main reasons for this caution, and our conclusions, were that simply adding a new curve did not necessarily improve the determination of an unbiased estimate for the return on debt. For example, the TR curve had very similar mix of strengths and weaknesses to the BVAL curve. As a result, adding the curve did not add significant ‘information’; rather it would bias the ‘average result’ towards the BVAL/TR assessment process.

- It would be difficult to determine objectively how to weight each of the new sources of information without risking the distortion of the results (as per point 1 above); this issue becomes more complex as additional series are added in.
- There would be significant complexities with ‘formulating’ an automatic response to one or other of the data series being removed over time, a complexity that would increase, as additional data series are included in the mix.

### 2.3 CCP16 encouraged the AER to continue to develop its own data base of bond issuances

CCP16 also urged the AER to expand its own database of relevant bond issues. In each of the published series (cited above), the bond selection criteria used by the service provider did not correspond with the prevailing definition of the benchmark efficient entity (BEE).<sup>10</sup> Therefore, in developing its own series, the AER could assess more closely the relevance of a particular bond or bond yield curve to the costs of debt for a BEE (a BBB+ credit rated utility providing regulated services in Australia).

For example, CCP16 also noted the REU’s conclusion that, based on US data: “a curve that combines financial and non-financial bonds would tend to overestimate the yield of non-financial and utility bonds with the same credit rating”.<sup>11</sup> However, the REU also highlighted the need to test this observation in the Australian market context. By developing its own data base, the AER would be in a position to assess this important observation more effectively.

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<sup>9</sup> CCP16, *Submission on rate of return issues paper*, 18 December 2017, p65.

<sup>10</sup> CCP16 recognises and supports the proposal in draft legislation that the new binding ROR Guideline will not include reference to the BEE. The requirement to develop a data base of bonds that will be more indicative of the cost of debt in the utility industry remains. We also acknowledge that the AER has now made significant progress on this issue.

<sup>11</sup> ACCC REU, *Thomson Reuters credit curve methodology – Note for the AER*, April 2017, p10.

While CCP16 has somewhat modified its position following the additional material provided by the AER in its Discussion Paper and the associated report by Chairmont (April 2018), we also consider that many of the matters raised in our initial submission to the AER's Issues paper are still relevant. For example, we continue to support the following:

- Continuation of the AER's overall approach of a 10-year trailing average with annual updates and a transition period. However, we would expect to see the reduction in interest rate and financing risks for the networks reflected in the overall ROR.
- Caution in adopting a new third party data series to add to or replace the existing two series – a new series must add information and minimise practical complications

### 3 Concurrent Evidence Sessions (CES) and the AER 's Discussion Paper

The summaries of the AER's Discussion paper and the CES that are included in this section are not intended to be comprehensive. CCP16 has focused only on those elements that are relatively new and/or have relevance to the issues included in our assessment of the outcomes of the expert sessions.

#### 3.1 Concurrent Evidence Sessions (CES)

There was very limited discussion on the ROD estimation process other than the following:

- General support for the AER's overall approach to the trailing average return on debt, with the notable exception of Professor Partington who considered the TA approach inconsistent with the return on equity and the AER's overall efficient financing approach to the ROR.
- Acceptance of the 10-year transition to a trailing average, with annual updating, on the basis of the most recent decisions of the Tribunals and the Federal Court.
- As a secondary outcome of the discussions arising from the discussions on debt beta, gearing ratios and credit ratings.

The AER indicated in its Discussion Paper that it is seeking comment on whether it should hold another CES specifically on the topic of ROD issues given the extent of new evidence from the Chairmont report and the AER's analysis including assessment of the S&P bond series.<sup>12</sup>

CCP16 does not consider that it is necessary, per se, for the AER to conduct another CES specifically on the return on debt issues, particularly given the limitations of commercial sensitivity of the data. However, we recognise the importance of the AER's new analysis, the Chairmont report and CCP16's recommendations to the AER to undertake a more detailed assessment of the weighting to apply to the A and BBB bond series, and the weighting to apply to the third party data series. On balance, therefore it may be appropriate for the AER to conduct an additional workshop for stakeholders either prior to or soon after the publication of the Draft Guideline.<sup>13</sup>

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<sup>12</sup> AER, Discussion paper – estimating the allowed return on debt, May 2018, p6.

<sup>13</sup> In principle, CCP16 would prefer such a workshop be held prior to the publication of the Draft Guideline. However, we recognise the practical limitations of undertaking the additional research and conducting a

### 3.2 AER's Discussion Paper – Estimating the allowed return on debt

The AER completed its Discussion Paper on the allowed ROD after the completion of the two CES sessions, and has therefore extended the time for submissions. CCP16 appreciates this additional information and time that the AER has allowed for consideration of the ROD, particularly given a gearing ratio of 60% debt and 40% equity in the overall ROR and consumers have been concerned that the debt allowance has been too high for some time.

The AER's Discussion Paper is accompanied by a report by the AER's consultant, Chairmont. Chairmont's report considers the actual debt practices and costs for Australian listed energy infrastructure bonds along with some analysis of the potential drivers of these practices and costs. Chairmont states that:<sup>14</sup>

*...this exercise was to collect and examine debt raising evidence from regulated service providers and create an index of their debt costs.*

...

*The purpose is to produce a 'pure' unadjusted index which reflects actual debt raising costs without modelling adjustments to a target theoretical benchmark.*

The AER has indicated in its terms of reference for the study, that it will:<sup>15</sup>

*...use this data to support our analysis of whether our current choice of data series or possible alternative choices of data series produce outcomes that are reasonably consistent with the actual costs of issuing debt faced by the service providers (the analytical goals).*

The AER notes that there was 'broad support' for its overall return on debt approach<sup>16</sup> from stakeholders, networks and the experts attending the CESs. Therefore, the AER's Discussion Paper focuses on three aspects of its ROD assessment framework:<sup>17</sup>

- the benchmark credit rating using updated actual credit rating data
- the selection of third party yield curve provider
- the choice of the appropriate data series within which the AER will address:
  - benchmark credit rating
  - benchmark term
  - implementation of the benchmark credit rating.

The following section 4 sets out CCP16's response to each of these issues.

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meaningful workshop on these findings before the due date for publication of the Draft Guideline. We therefore suggest that the AER signal in the Draft Guideline its intent to conduct further workshops on the debt measurements and to ensure it is not bound by a position taken in the Draft Guideline on these issues.

<sup>14</sup> Chairmont, *Aggregation of Return on Debt Data*, 28 April 2018, p3.

<sup>15</sup> See *Ibid*, Appendix 1, p15.

<sup>16</sup> AER, *Discussion paper - Estimating the allowed return on debt*, May 2018, p12.

<sup>17</sup> *Ibid*, pp12-13.

## 4 CCP16's Assessment

### 4.1 Some high level considerations

As a matter of principle, CCP16 would prefer the AER adopt a bond series, or combination of series, that is transparent and minimises the need for any 'adjustments' of the raw data.

To the extent the AER uses a combination of series, it is also important that each new series provides information that is incremental to the existing information from the RBA and BVAL series. Simply adding a new data series that largely duplicates the one or other of the current two series, will not add to the accuracy of the AER's estimate and indeed may distort the outcome by overemphasising a particular approach.

On the other hand, it is possible that one or other of the providers changes its current series or simply ceases to produce a 10-year BBB bond series. Bloomberg for instance at one stage ceased publishing a 10-year BBB bond curve for a period of time. The inclusion of an additional series would reduce the exposure of the AER's approach to this. If the additional series conveys at least some useful new information to the market, it could provide an additional level of confidence in the AER's estimates.

In CCP16's response to the AER's Issues Paper, we noted our concern that the TR series replicated the BVAL series on several important bond selection criteria and therefore may not add sufficient incremental information to warrant a separate inclusion in the AER's estimation process. Moreover, in the event the TR series was introduced and was given equal weight to the initial two series, this would effectively down-rate the information contribution of the RBA series. As a result, CCP16 recommended no change to the AER's current practice of averaging the RBA and BVAL series.<sup>18</sup>

CCP's revised recommendations in this submission provide a potential methodology for including a new series (the TR series in this instance) while avoiding the problem of down-rating the RBA series. This involves retaining a 50% weighting for the RBA curve irrespective of what other commercial curves are included in the assessment, provides a way forward on reconciling these two issues.

A second high-level consideration arises from the inherently conservative position that the AER adopts in estimating the ROD. CCP16 and many other consumer representatives have long stressed the problems that arise from the conflict between:

- the conceptual benchmark that seeks to identify the ROD of an efficiently financed pure play network providing regulated services in Australia and with a credit rating of BBB+ ; and
- the practical reality that this ROD is measured by reference to 10-year broad BBB bond yield curves derived from a much wider range of issuing companies and with complex and largely non-transparent adjustment processes.

There are multiple gaps between the conceptual benchmark and the practical reality that impinge on achieving the best estimate of a benchmark efficient ROD allowance. The report by the ACCC's Regulatory Economic Unit (REU) in April 2017<sup>19</sup> demonstrated the complexity of the selection and

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<sup>18</sup> See for instance, CCP16, *Submission on rate of return issues paper*, December 2017, p72.

<sup>19</sup> ACCC *Regulatory Economic Unit, Thomson Reuters credit curve methodology – Note for the AER*, April 2017.

adjustment processes across all the RBA, BVAL and TR series.<sup>20 21</sup> The more recent Chairmont report (April 2018) provided further support to CCP16's concerns with the biases introduced by the use of a broad BBB bond series with 10-year tenor. Chairmont demonstrates (using their benchmark measure of the debt risk premium) that utilities typically adopt a much more flexible and efficient approach to raising debt using a variety of tenors and debt sources according to the prevailing conditions in the market (see also Figure 1 below).

A third consideration arises from the AER's decision that the new ROR binding Guideline would represent an incremental change to the existing 2013 Guideline. While the AER's position on this has widespread support, including support from CCP16, it creates a difficulty for the AER if it were to fully embrace the results of the Chairmont study and adopt a very different type of measure of ROD.

In particular, the adoption in the AER's current Guideline of a 10-year trailing average with annual updates, plus the adoption of a 10-year transition process, creates particular difficulties with introducing any fundamental change to the process. Given most determinations will be well into the transition period by the time the new Guideline comes into effect, moving to a new assessment process would introduce new and significant complexities. We do not want to end up with a transition from an existing transition process to a new transition process.

This latter statement has important implications for the AER, as the implication is that there must be a **particularly high bar** for changing the current approach. It may therefore limit the opportunities for the AER to move to any new approach even when that new approach better reflects the networks' actual cost of debt and debt raising practices.

For these reasons, CCP16's recommendations are designed to be adaptable to the current high-level framework for determining the ROD, including the continuation of the transition process. Nevertheless, the AER will need to consider the implications of these suggested changes in terms of its assessment of the historical data in particular.

The AER will also need to consider the broader implications of continuing with a methodology that, despite the recommended changes, will inherently include an upward bias over time due to its assumption of a 10-year term and the assumption of an inflexible bond purchasing profile in the 10-year trailing average that does not dynamically to changes in the debt market conditions.

Figure 1 below provides an illustration of this. Figure 1 compares the debt risk premium (DRP) in the AER's current approach with the DRP derived using the utility index (Energy Infrastructure Credit Spread Index (EICSI)) developed by Chairmont using detailed information on bonds and bank bills loans provided to date by the networks.<sup>22</sup>

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<sup>20</sup> See for instance, *Ibid*, Table 1, pp5-7.

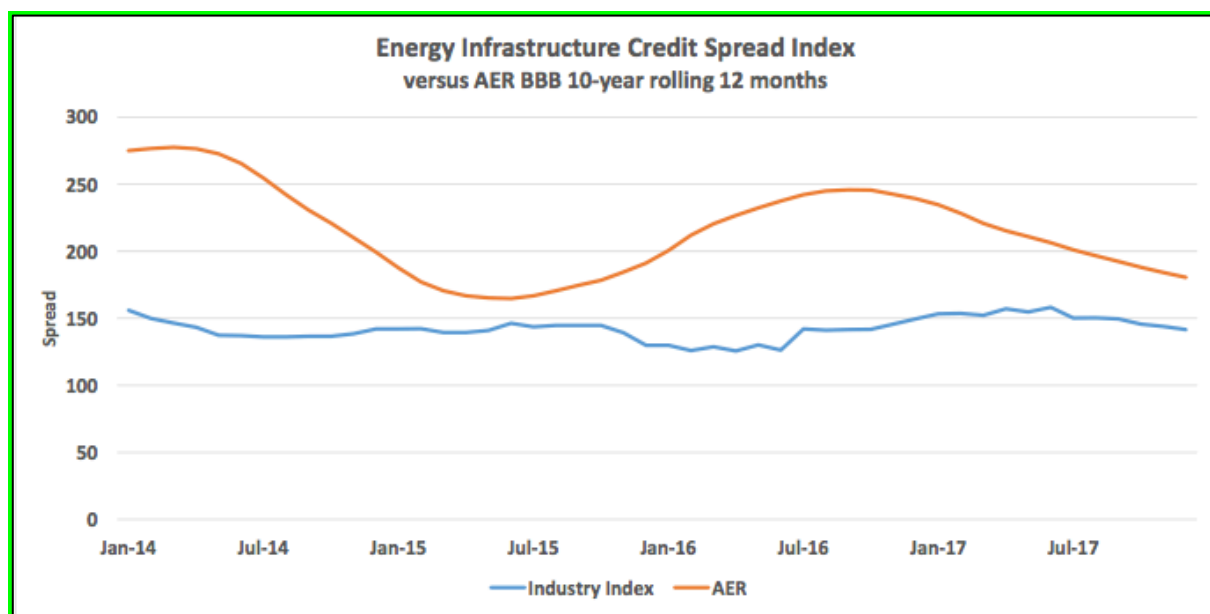
<sup>21</sup> At the time the REU report was prepared, there was little information on the S&P series. The AER has provided an update on the S&P series in its Discussion Paper and this update reinforces the view that it will be very difficult to compare the different series when the assumptions and adjustments in each series are so varied and none of the series comes close to representing the specific debt costs of the networks providing regulated services.

<sup>22</sup> Simplistically, Chairmont's industry index is created based on the observed characteristics and pricing of the debt instruments issued by the networks over the period 2013 to 2017. The index represents the spread

Unlike the AER’s approach, the data is specific to the networks rather than the market as a whole and does not set preconditions on the data (such as limits relating to term or credit rating) – the data speaks for itself. As Chairmont states:<sup>23</sup>

*In summary, EICSI reflects both behavioural factors as well as simple market prices. On the other hand, external bond yield time series report the market prices of any secondary market bonds on a regular (e.g monthly basis), keeping static criteria for term to maturing, rating and any other restrictions set by those market providers.*

**Figure 1: Chairmont’s Index (EICSI) in Context of AER 10-year BBB Spread**



Source: Chairmont, *Aggregation of Return on Debt Data report*, 28 April 2018, Graph2, p9.

The AER needs to take account of this intrinsic upward bias in the ROD component of the overall rate of return (ROR) when it considers the overall ROR and the particular values of each of the other parameters in the ROR calculation. While this requires introducing a new level of judgement by the AER, it is nevertheless preferable to embedding a continued upward bias in one component without compensation to consumers elsewhere in the WACC determination.

The following section responds to the specific questions raised in the AER’s Discussion Paper.

#### 4.2 Response to the AER’s questions

While section 4.1 sets out some important principles that CCP16 considers should underpin the evaluation of all the elements in the AER’s Discussion Paper, section 4.2 responds to the specific questions raised by the AER.

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payable above the prevailing bank bill swap rate (BBSW). Details of the construction of the index are provided in Chairmont, *Aggregation of Return on Debt Data report*, 28 April 2014, section 4, pp5-6.

<sup>23</sup> Ibid, p6.

4.2.1. Benchmark Credit Rating

**Q1: Does the evidence support continuation of a BBB+ credit rating or a change? If it supports a change, what should the benchmark credit rating be?**

Based on the data provided in Table 5 of the AER’s ROD Discussion Paper, it would seem reasonable for the AER to retain its benchmark credit rating of BBB+. However, the table would perhaps be more useful if the AER were to provide information on when the credit ratings were published and if the various credit agencies have adopted different views on the credit ratings. We can have more confidence in this data if it is clear that the credit ratings are reasonably up to date and if there is a consistent view across the various credit rating agencies. For example, a study by Jewell and Livingston indicated that the credit agencies do vary in their assessments of different companies and different bonds, and that the market values the ratings of all three well known rating agencies that were considered in the study.<sup>24</sup>

The Chairmont report (April 2018) suggests that there are some parallels between the average credit rating of debt issued by the networks and the average term of the debt – both average credit ratings and term of debt increased or decreased in parallel and both appear to be driven by changes in the external investment conditions.<sup>25</sup> However, while both measures appear to move in parallel, they have offsetting effects on Chairmont’s EICSI measure. The end result is that the EICSI measure remains relatively stable as illustrated in Figure 1 above. Table 1 below illustrates the importance of both the actual bond terms and credit ratings to the EICSI measure.

**Table 1: Factors influencing EICSI over a 12-month period**

Factor	Direction	Variability
Size	-	Small
Term	+	Significant
Rating	-	Significant
Pricing Date Clustering	Normally -	Significant

Source: Chairmont, *Aggregation of Return on Debt Data report*, 28 April 2018, Table 1, p7. ‘Price date clustering’ refers to the fact that the EICSI uses data from utility bonds and bills whenever the utilities raise debt and this may occur at similar times. In contrast the third party provider yield curves measure prices on a regular basis (at least monthly) so that an average for a given year is based on evenly spaced data observations. (see also p7)

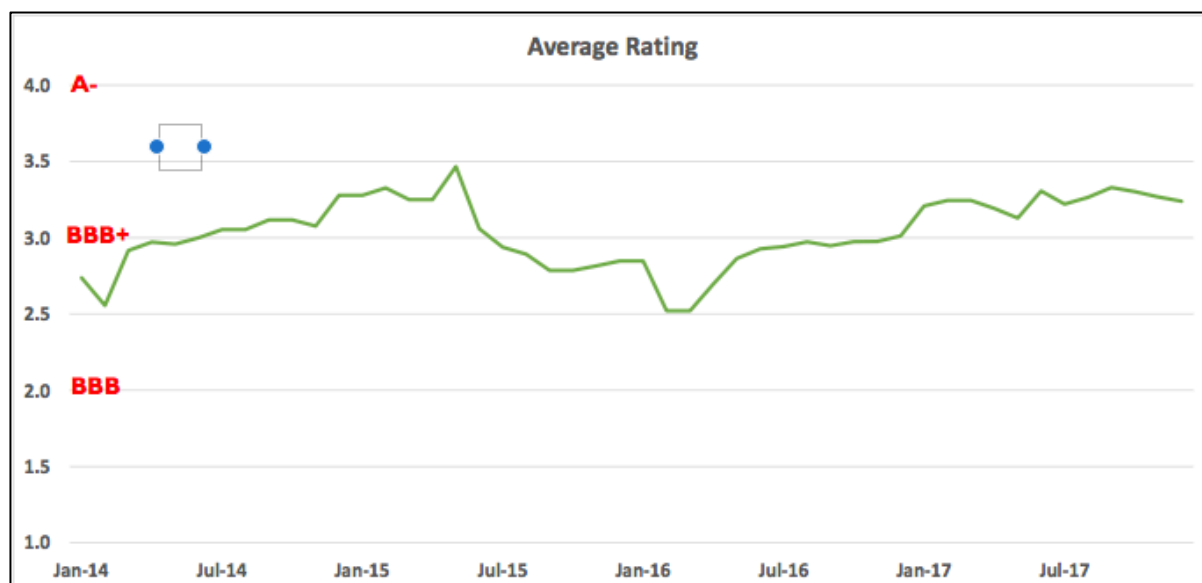
The data on average credit rating of debt issuance by the utilities as observed by Chairmont also supports the AER continuing to use a BBB+ credit rating as a benchmark. Figure 2 illustrates this outcome with observations around a mean value of BBB+ since January 2014. CCP16 is also not aware of any credit warning notices with the exception of the short-term result following a change in ownership for one of the utilities.<sup>26</sup>

<sup>24</sup> J Jewell and M Livingston, “A Comparison of Bond Ratings from Moody’s S&P and Fitch IBCA”, *Financial Markets Institutions and Instruments* Vol 8, No 4, August 1999.

<sup>25</sup> Chairmont correctly states that the apparent positive correlation does not reflect direct causation; rather both are responding to particular conditions in the wider market. See *ibid*, pp10-11.

<sup>26</sup> This reflected perceptions of the credit status of the new parent company who was acting as guarantor for the utility. The original credit status was subsequently restored.

**Figure 2: Average Rating of Industry Debt Issuance**



Source: Chairmont, *Aggregation of Return on Debt Data report*, 28 April 2018, Graph4, p10.

While we agree with the continued use of a BBB+ credit rating, another equally important issue is the way in which the AER applies this BBB+ credit rating to the estimation of the ROD for the network companies. Although the AER recognises that an efficiently operated and financed pure play network company providing regulated services is likely, on average, to have a credit rating of BBB+ (or equivalent), the estimate of the cost is based on the yields on the broad BBB category of bonds (BBB+, BBB, BBB-).

While all the 10-year bonds in this broad BBB category can be considered ‘investment grade’ bonds there are significant differences in the underlying risk characteristics of the three ratings within this broad range. Moreover, we do not know what combination of bonds is included in the broad BBB range – is the broad category weighted more to BBB- or more to BBB+, and does that change over time?

S&P for instance explain that in their rating system, an ‘A’ rating means a company has a strong capacity to meet financial commitments but is somewhat susceptible to adverse economic conditions. A ‘BBB’ rating means there is adequate capacity to meet financial commitments but is more subject to adverse economic conditions. They note that a BBB+ rating sits between these two descriptions.<sup>27</sup>

It is also clear that the regulatory framework enables an efficient BBB+ rated network to have a stronger capacity to meet its financial commitments and to be less susceptible to changes in the economic conditions than the average BBB company described by S&P.<sup>28</sup> As such, the cost of debt for an efficient network company will be lower than that of the average BBB company at any point in time. In addition, there is some evidence from overseas that the ROD for a utility company will be on

<sup>27</sup> See: [https://www.spratings.com/en\\_US/understanding-ratings](https://www.spratings.com/en_US/understanding-ratings)

<sup>28</sup> This includes key components of the regulatory framework such as the indexed RAB, the risk of removal of economically stranded assets in the RAB, a revenue formula that largely removes inflation risk and demand risk and the ability to ‘pass through’ unexpected costs,



average lower than debt for an equivalently rated non-utility company, particularly financial sector companies.<sup>29</sup> The Australian equity market is heavily weighted towards the financial sectors (estimated at around 40% of the total equity market),<sup>30</sup> and they are also substantial issuers of bonds into the market. So if the same situation applied in Australia as in overseas markets it would further distort the average bond costs.

It would be worthwhile for the AER to further explore this issue in the Australian context. Similarly, it would be worthwhile investigating the relationships between the percentage of the assets that are subject to the AER's full regulation and the credit rating and debt costs of the businesses.

Overall, this suggests that the AER should further investigate the option of combining the broad A rated curve with the broad BBB curve to better reflect the cost of debt for average BBB+ credit status firms. While there may be some limitations in this approach, and careful consideration would need to be given to the appropriate weighting, it is also clear from the AER's analysis that the result will more closely reflect the observed cost of debt for an efficient network service provider.

#### 4.2.2 Selection of third party yield curve provider

The AER's Discussion Paper proposes to assess the four service providers (RBA, BVAL, TR and S&P) with respect to the following selection factors:

- the market expertise and credibility of the data provider
- the technical characteristics of the curves, including bond selection criteria and the curve-fitting methodology
- time series of curve availability
- curve outcomes.

The discussion below responds to the AER's questions on each of these factors.

##### 4.2.2.1 Market expertise and third party credibility

**Q2: What are your views on the relevance of market expertise of the above providers with respect to estimating corporate debt yield curves for our purposes?**

CCP16 agrees with the AER that it is important that any third party provider is well recognised and accepted by stakeholders as competent and independent of the companies that it assesses. The provider should also demonstrate that it has a significant history of providing reliable bond pricing and other data to the market.

Three of the rating companies have expertise in international bond markets as well as Australia. For example, the REU reported that:<sup>31</sup>

*TR produces a wide range of sector and issuer credit curves. In particular, in 2013, there were around 480 curves covering 20 currencies.*

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<sup>29</sup> Further details can be found in CCP16's submission to the AER's Issues Paper.

<sup>30</sup> Further details on the changes in the proportion of equity for different segments of the market can be found in CCP16's submission to the AER's Issues Paper.

<sup>31</sup> ACCC Regulatory Economic Unit, Thomson Reuters credit curve methodology – Note for the AER, April 2017, p4.

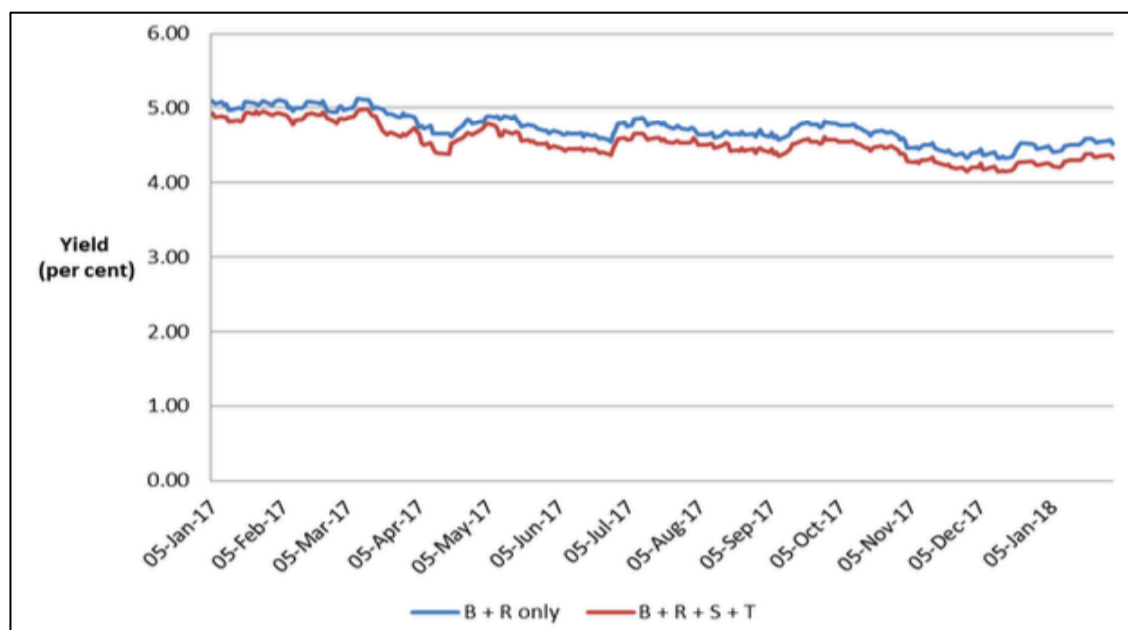
S&P provides extensive ratings services across multiple countries and indeed, its credit rating services are relied on by the RBA, TR and even Bloomberg (when its own data is not available). However, it is less clear to CCP16 what data S&P has available on the Australian bond markets and whether it has a well-established and accepted model of bond yield curves that can support the development of an historical 10-year BBB bond yield series as well, as continue into the future.

Subject to this caveat on the S&P series, CCP16 therefore concludes that all four of the service providers have (or might have in the case of S&P) the necessary expertise and credibility to be candidates for inclusion in the AER’s estimation of the ROD.

However, we also remain concerned with the relative lack of transparency in the bond selection and adjustment processes of the three commercial service providers and the lack of liquidity in some periods.

The AER’s Discussion Paper also suggests that the approach adopted by TR tends to overestimate the 10-year bond yields, and S&P underestimate the 10-year bond yields **relative to the AER’s** current approach of averaging the RBA and BVAL series.<sup>32</sup> However, it is not clear why this is the case particularly given that Figure 3 below suggests that the differences may be relatively persistent, although this observation is limited because of the limited time that the S&P data has been made available.

**Figure 3: Impact of including the additional 10-year BBB yield curves**



Source: AER, *Discussion Paper – estimating the allowed return on debt*, May 2018, Figure 1, p25. S&P data is only available to the AER from January 2017 although the AER is seeking further historical data from S&P.

The risks of selecting a preferred approach and/or a preferred data service provider using relatively short-term data is highlighted by the further observation in the Discussion Paper that at various

<sup>32</sup> See AER, *Discussion Paper- estimating the allowed return on debt*, May 2018, pp25-26.

times, the RBA approach resulted in higher 10-year bond yields, while at other times the approach resulted in lower 10-year bond yields relative to the BVAL.<sup>33</sup>

Again, it is not clear why these differences emerge. So while all the providers are credible and well reputed, their different selection and adjustment processes clearly influence the outcomes and make it difficult to further assess the relative reliability and validity of the four companies as sources of information for the regulator.

*Conclusions on the third party service providers:*

CCP16 has concluded that the RBA curves should be given the most weight in any blended series given that:

- the RBA is an independent provider that is not reliant on subscriptions or fees from rated companies;
- the RBA has a long history of reporting on the economic and financial markets in Australia; and
- the RBA demonstrates considerably more transparency in terms of the reasons for its bond selection criteria and adjustments to the selected bonds in the construction of the curves.

#### *4.2.2.2 Technical characteristics of the yield curves*

***Q3: Having regard to the available evidence, are any of the curves clearly superior to the other curves in terms of their overall fitness for purpose?***

Overall, none of the available third party yield curves correspond directly to the characteristics of the benchmark service provider providing regulated network services. The issue then becomes one of determining which of the four yield curves (or combination of curves) provides the best estimate over time of the cost of 10-year debt.

The AER has identified two components to this aspect of its assessment. They are:<sup>34</sup>

- bond selection criteria - the rules governing the sample of bonds to which a curve is fitted
- curve-fitting methodology – this is the econometric process by which a curve is fitted to the sample of constituent bonds.

Before considering these aspects in detail, CCP16 notes in summary:

- Each of the bond series uses a different bond selection process and criteria, although some are series are more closely aligned than others.
- None of the bond selection processes adopted by the providers matches the characteristics of the efficient network service provider.
- All the series require various forms of adjustment including extrapolation and interpolation to match the 10-year bond yield criteria, although the S&P series appears to have limited these adjustment processes (noting, however, that the series only commenced in January 2017).

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<sup>33</sup> Ibid, p25. The AER states that over the period 2013-2017, the difference in the 10 year yield between BVAL and RBA broad BBB series has varied as follows: RBA curve exceeding the BVAL curve by (up to) 97 basis points; the BVAL exceeding the RBA curve by (up to) 40 basis points.

<sup>34</sup> Ibid, p18.

## Bond selection criteria

The critical issue here is whether the bond selection process itself will result in an over or under estimation of the cost of debt for a BBB+ rated firm, and in particular, for an Australian energy utility selling regulated services. The REU provided a detailed explanation of these differences and how they might effect the determination of the ROD for the broad BBB rated company. Some of these differences are discussed below.

For example, the RBA series includes both secured and unsecured bonds, while two of the other three series rely on senior unsecured bonds (BVAL and S&P) and TR includes both senior unsecured and unsecured bonds only. Arguably, this difference in exposure to unsecured bonds might affect the average yield for broad BBB bond issues.

The RBA bond series includes only non-financial corporations that are incorporated in Australia. The other three series include both financial and non-financial corporations and are not necessarily constrained to firms incorporated in Australia. There is a body of evidence that suggests that financial companies have a higher cost of debt for the same credit ratings and if this is the case, then inclusion of financial companies in Australia may distort the cost of debt for the utility.

However, by limiting the series to non-financial companies, the RBA also limits the available data points to establish a reliable 10-year yield curve. The RBA addresses this issue by including 7-10 year maturity bonds issued by Australian non-financial corporations in US dollars and euros, which greatly expanded the data set, especially for broad BBB rated securities. The RBA stated:<sup>35</sup>

*...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*

With respect to credit ratings, the RBA relies on 'broad BBB' S&P bond ratings, as does the S&P bond yield series. BVAL relies on broad Bloomberg composite bond ratings while TR uses a broader mix of ratings (S&P, Moody's, Fitch or DBRS), and puts more weight on most recent weightings. It could be argued that the TR approach is preferable in this respect at least as it draws on multiple sources and does not rely on its own proprietary rating system. .

Overall, in terms of fitness for purpose, the question may, in the end, become an empirical one. Is there a series that in practice provides outputs over time that better meet the actual observed bond costs of the relevant energy utilities as set out (for instance) in the Chairmont report.<sup>36</sup>

Liquidity is another important aspect in evaluating the bond selection process. All four of the bond series have some direct or indirect liquidity test and apply a constraint on the residual term to maturity. For instance, the TR series has only actively priced bonds, and at least A\$150 million outstanding. BVAL and S&P also require evidence of actively priced bonds. However, while the RBA

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<sup>35</sup> I Arsov, M Boroks and M Kosev, "New Measures of Australian Corporate Bond Spreads", RBA Bulletin, December quarter, 2013, p17.

<sup>36</sup> We do not expect the results of the yield curves to be the same as the Chairmont findings, as the four curves are based on a sample that is taken from the whole broad BBB bond market (subject to the respective selection processes). In contrast, the Chairmont analysis uses actual data from the networks. However, a reasonable objective is to reduce the existing significant differences between the various bond series and the observed data.

series requires at least A\$100 million outstanding, it does not include a specific test for pricing liquidity.

An earlier report from Chairmont states:<sup>37</sup>

*Consistent with the principles of benchmarking, an appropriate proxy needs to have a similar degree of liquidity to the bond being benchmarked, all other things being equal.*

On the other hand, the three proprietary services appear to be more similar in their selection processes and the question becomes how we can assess the value that each of the three series should contribute to the overall 'weighted average' estimation of the ROD?

*Conclusion on the bond selection process:*

In CCP16's response to the Issues Paper, we suggested that the AER should retain its current approach of using a simple average of the RBA and BVAL series. While each of these series had strengths and weaknesses they appear to provide complementary information and the combination of the two should provide a better outcome than each would provide individually.

However, CCP16 also considered that the TR series, while useful in its own right, largely replicated the BVAL series so did not provide additional information while potentially reducing the weight of the RBA series.

Having considered the AER's Discussion paper and related documents, CCP16 is now of the view that it may be useful to include the TR series, but this should not reduce the current 50% weighting of the RBA series. The S&P series also shows some promise of having some additional information value, but at this stage its value to the AER's process is limited by the relatively short history of this data series. CCP16 concludes that subject to further testing:

- The AER should adopt a weighted average of the RBA, BVAL and TR series with a weighting of 50%, 25% and 25% respectively.
- If S&P can provide reliable historical curve data to the AER, then the S&P curves should be included with revised weightings of 50% (RBA), 16.7% (BVAL), 16.7%(TR) and 16.7%(S&P).

#### Comparison of corporate yield curves

The AER's Discussion Paper builds on the description of the curve fitting methodologies set out in the REU's detailed evaluation reports. In particular, the AER has obtained further information from S&P on the construction of their yield curve.

CCP16 has reviewed the AER's latest information that is summarised in Table 3 and concludes that there is considerable variation between the underlying methodology statistical constructions of the curves.

CCP16 is not in a position to comment further on the benefits or otherwise of the particular yield curve constructions but does note that both Bloomberg (BVAL curve) and S&P maintain confidentiality over the detail of their curve fitting techniques. Of the four providers, only the RBA

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<sup>37</sup> Chairmont Consulting, *Debt risk premium expert report*, February 2012, pp12-13.

appears to provide a full and open explanation of their approach, with TR being forthcoming than the other proprietary providers.

*Conclusion on the corporate yield curves process:*

Due to the variation and complexity of the different approaches, CCP16 draws no conclusion other than our preference for the RBA's approach of providing transparency on the details of their approach.

4.2.2.3 Level of adjustment required to make curve fit for purpose

**Q4: How should we consider the impact of adjustments to curves away from their published form when deciding on the curves to use in our benchmark?**

Each of the four curves require some form of adjustment if they are to approximate the AER's benchmark, namely the yield on a broad BBB credit 10-year bond. CCP16 agrees with the AER that it is preferable to select a curve that requires minimal adjustments as each adjustment builds in some degree of assumptions.

Some adjustments are relatively simple and non-controversial. For instance, the AER notes that each of the curves requires an adjustment to convert to an effective annual rate which, the AER states, is 'straightforward and small adjustment'.<sup>38</sup>

The RBA data is the only series that is not published on a daily basis (although the RBA has indicated in the past that it would move to that level of detail). As such it requires the AER to interpolate daily data using the published end of month data and it is not clear what inaccuracies and biases this may introduce into the process. CCP16 would recommend further investigation of this issue.

A more immediate concern is the requirement to extrapolate curves when 10-year bond yields are not published. For example, in the past BVAL only published to 7 years and the AER was required to extrapolate this by effectively relying on the shape of the RBA curve. However, the RBA curve itself requires some extrapolation, as the RBA curve is effectively closer to a 9-year term. The consistent availability of a 10-year curve from the TR series is also problematic, as TR does not extrapolate beyond the longest term in its bond sample.

The series with the minimum adjustment is the S&P series, which typically publishes a daily 10-year estimate. However, as noted below, the S&P series only dates back to January 2017, and it is not yet certain that S&P will consistently publish daily 10-year data over an extended period of time.

*Conclusion on the level of adjustment:*

While the AER should consider the adjustments, the task is made difficult by the differences between the series and the lack of transparency in the processes for deriving the three commercial bond series. Overall, however, the adjustments do not appear to be decisive in the choice of series, although transparency favours the RBA approach – and accordingly, CCP16 considers this should be given more weight in the final estimation of the ROD.

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<sup>38</sup> AER, *Discussion Paper – Estimating the allowed return on debt*, May 2018, p23.

The one series that appears to involve the least adjustments, the S&P series, has not been available for long enough to qualify for inclusion unless the AER can obtain a satisfactory historical series

#### 4.2.2.4 Availability of published 10 year AUD broad BBB estimates

**Q5: How should we consider the impact of curve availability over time when deciding on the curves to use in our benchmark?**

In the first instance, the transition process requires access to historical data on bond series. For instance, the NSW distribution businesses will be half way through the transition period and any new series would require the AER to back-cast the series to the start of the current regulatory period.

At this stage, only the BVAL and RBA series would provide sufficient consistent information to meet this requirement. The TR series can be back cast but has some gaps in the 10-year bond series that appears to arise from TR's curve fitting methodology. If the TR curve is to be included, the AER will require some methodology to address this historical gap and future risk.

The S&P appears to have only published 10-year AUD BBB estimates since January 2017, and despite the potential benefits of the additional curve, this severely limits its value of the AER's estimation of the ROD based on the 10-year trailing average with a transition period. The AER states that it is seeking further advice on this from S&P to determine if S&P can provide a historical series. CCP16 would support the AER's endeavours in this area

Conclusions on the availability of 10 year BBB estimates:

CCP16 considers it is essential for the inclusion of a particular yield curve in the estimation of the ROD that there is a reasonable chance that the 10-year curve will be available on an historical basis in order to effectively apply the 10-year trailing average with 10-year transition period. As a result, CCP16 has some concerns with the TR series and would not include the S&P series unless S&P can provide a satisfactory historical data set.

#### 4.2.2.5 Curve Outcomes

**Q6: How should we have regard to curve outcomes over time when deciding on the curves to use in our benchmark?**

Given the differences in bond sampling and curve fitting it is not surprising that the AER observes that the relative outcomes of the RBA and BVAL curves are not consistent over time with a potential swing between the two of some 137 basis points.<sup>39</sup> However, there is no objective way of determining which of these curves is most fit for the purpose of estimating the cost of debt for the network service providers. For this reason, the AER correctly concluded that the averaging of the two series was the approach most likely to reduce the overall error of the estimate.

Nevertheless, the Chairmont report has demonstrated that neither curve adequately captures the actual costs of debt revealed in the report. The question then becomes an empirical one of whether adding a new series will, per se, improve the ability of the AER to estimate the efficient cost of debt.

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<sup>39</sup> See Ibid, p25. The AER states that in the period 2013-2017, the RBA has exceeded the BVAL curve by up to 97 points and the BVAL curve has exceeded the RBA curve by up to 40 basis points.

A fundamental issue here is that the actual debt raising behaviour of the networks is more flexible and responsive to prevailing market conditions than suggested by the AER's static approach. On average, Chairmont found that the average term of the debt is lower than 10-years (approximately 7.5 years over 2013-17 period) and the broad BBB category overstates the actual debt costs. In addition, there is more variation in the published third party yield curves (and associated DRP), than in the spreads of debt instruments issued by utilities debt.<sup>40</sup>

Conclusions of the curve outcomes:

The AER is seeking views on what are the preferred options for combining curves taking into account the benefits of stability using the current approach versus the potential benefits arising under a binding instrument of expanding the curve mix, particularly to address the risk of one of the providers ceasing to publish the series. The AER submits the following options for comment.

1. BVAL and RBA (current approach)
2. BVAL, RBA and TR
3. BVAL, RBA and S&P
4. BVAL, RBA, TR and S&P

CCP16's conclusion is that there are significant benefits in terms of risk mitigation in including at least one more yield curve in the estimation of the ROD. Unfortunately, the TR has gaps in the history and these gaps appear to be intrinsic to the curve-fitting model. It is not yet clear if, and how, the AER could mitigate this risk. Similarly, based on the current lack of historical data, the S&P would not be suitable for inclusion because of the overall approach of using a trailing average with transition.

On balance, and given that the new Guideline will be binding on the AER, CCP16 concludes that Option 2 is preferable. However, as noted in previous sections, CCP16 considers that the weighting of the three options will be most important. We strongly recommend that the RBA curve continues to receive 50% weighting in the ROD estimation while the BVAL and TR receive no more than 25% weighting. Should historical data for the S&P become available, then CCP16 would support option 4 again with the proviso that the RBA curve continues to receive 50% weighting.

#### 4.2.3 Changing the benchmark terms of debt

***Q7: In your view, does the evidence support a change to the benchmark terms of debt? Please address:***

- a. the impact of a change on term to the trailing average approach***
- b. the implications of such a change for regulatory certainty given the multiple period commitment implicit in the transition to the trailing average***
- c. the appropriate way to establish a benchmark if there is evidence of multiple distinct term issuing practices amongst networks?***
- d. the longer term data on benchmark term to maturity estimated in the previous rate of return review processes.***

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<sup>40</sup> Ibid, p37.



The Chairmont study adds to the already strong evidence that the maturity of debt raised by NSPs is less than the benchmark of 10 years that has been adopted in the current 2013 Guideline. The AER Discussion Paper calculated both a non-weighted and a weighted average term at issuance (by size of issuance) using the Chairmont data. Over the period January 2013 to December 2017, the average terms to maturity were 7.5 years (unweighted) and 7.4 years (weighted).<sup>41</sup> This is significantly lower than the AER's chosen 10-year term to maturity and would on its own be a factor in the lower cost of debt (see also Table 1 above).

The 2013 RBA research paper (cited above) noted that there were very few issuances of corporate bonds with maturities longer than 7 years and that those corporations (especially those with a broad BBB rating) wishing to issue bonds with longer maturities went overseas to raise funds.

The Chairmont report also indicates that NSPs adjust terms of the debt in response to market conditions. When margins for longer-term bonds are higher, NSPs respond by issuing bonds with shorter maturities. This behavioural response – which can be considered an efficient and rational method of optimising the costs and risks of debt exposures - results in a lower, more stable debt risk premium.

Clearly, there is a strong argument that the adoption of a benchmark term of 10 years contributes to a conservative (i.e. overestimate) ROD. The question of what to do about this is more complex and difficult. The primary difficulty is the uncertainty and complexity of changing the term while most utilities are in the process of adjusting their debt portfolios as part of transitioning to the trailing average of 10-years. Given the extensive analysis and debate (and administrative and judicial reviews) we would not propose that the AER change its current approach to better approximate a benchmark term based on the actual behaviour of the NSPs as part of the new Guideline – although we would not rule it out as a suitable approach beyond the transition period.

However, as noted above, the AER could consider this bias when assessing the overall ROR. An alternative or supplementary option to reduce the bias in the estimate of the ROD while not formally changing the maturity, would be to give some weight to the EICSI developed by Chairmont in estimating the debt margin. Further testing and analysis of the EICSI and the methodology would be required however, particularly given the very different methodology.

Chairmont emphasises the challenges in making comparisons between the EICSI approach and the market indices such as the RBA and other yield curves. Noting that the EICSI is based on all debt raised by the industry, Chairmont states that: “The result is that the debt portfolio, (i.e. bonds and loans) underlying the EICSI can be quite different to the bond portfolio underlying the market indices”.<sup>42</sup> Chairmont goes on to suggest that if there is transparency in the different approaches then useful comparisons can be made. Chairmont then states:<sup>43</sup>

*Wherever characteristics of the debt constituents of two indices differ, the resulting yield or spreads are not directly comparable. Nonetheless, once aware of the differences, the outcomes can provide valuable information as part of understanding the overall picture.*

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<sup>41</sup> AER, *Discussion paper – Estimating the allowed return on debt*, May 2018, Table 6, p31.

<sup>42</sup> Chairmont, *Aggregation of Return on Debt Data Report*, 28 April 2018, p6.

<sup>43</sup> *Ibid*, footnote 4, p6.

Another significant issue may be the transparency of the data and methodology for exclusion/inclusion of debt raisings and the difficulties with developing an index that can be effectively adopted during the current transition process. However, the Chairmont index has the potential to provide an alternative and perhaps better benchmark for the ROD at some future period, and should be further examined and tested. In the interim, it provides a valuable check on the reasonableness of the overall ROD allowance.

#### Conclusions on changing the term of debt:

CCP16 does not recommend that the AER change the current 10-year benchmark term for debt despite the evidence that this overstates the actual term of the overall debt portfolio including bonds and loans- and therefore overstates the benchmark cost of debt. This conclusion is largely based on the practical issues around the existing framework of 10-year trailing average with 10-year transition period and we encourage the AER to continue to examine and test more realistic assumptions on the term of debt.

In the interim, it is important that the AER take into account in assessing the overall ROR that its calculation of the ROD is intrinsically conservative and does not represent the dynamic debt raising practices of an efficiently financed utility.

#### 4.2.4 Implementation of the Benchmark Credit Rating

***Q. 8: How should we implement the benchmark credit rating? In particular, what do you consider is the appropriate broad-curve rating to use?***

CCP16 supports the continued use of the AER's current benchmark rating of BBB+. The AER's assumption is broadly consistent with that of other regulators and the median and average ratings for the NSPs under the AER's regulation. As Chairmont notes:<sup>44</sup>

*There has also been a structural, or at least cyclical, change in the average rating of the industry. Most of the firms operating currently have seen their credit ratings raised compared to five years ago.*

However, the trend to higher ratings has not been so strong as to support an increase in the benchmark rating from BBB+ to A-.<sup>45</sup>

As noted above:

1. The series on debt margins used by the AER are not specific to the BBB+ rating but are for the broad BBB rating from BBB- to BBB+.
2. There is a significant difference in the assessed level of risk for debt providers to corporations with BBB- and BBB+ ratings.

This introduces a degree of conservatism (i.e. overestimation of debt risk margins). In its Discussion Paper the AER has matched the cost of debt for specific raisings by NSPs with the AER's approach

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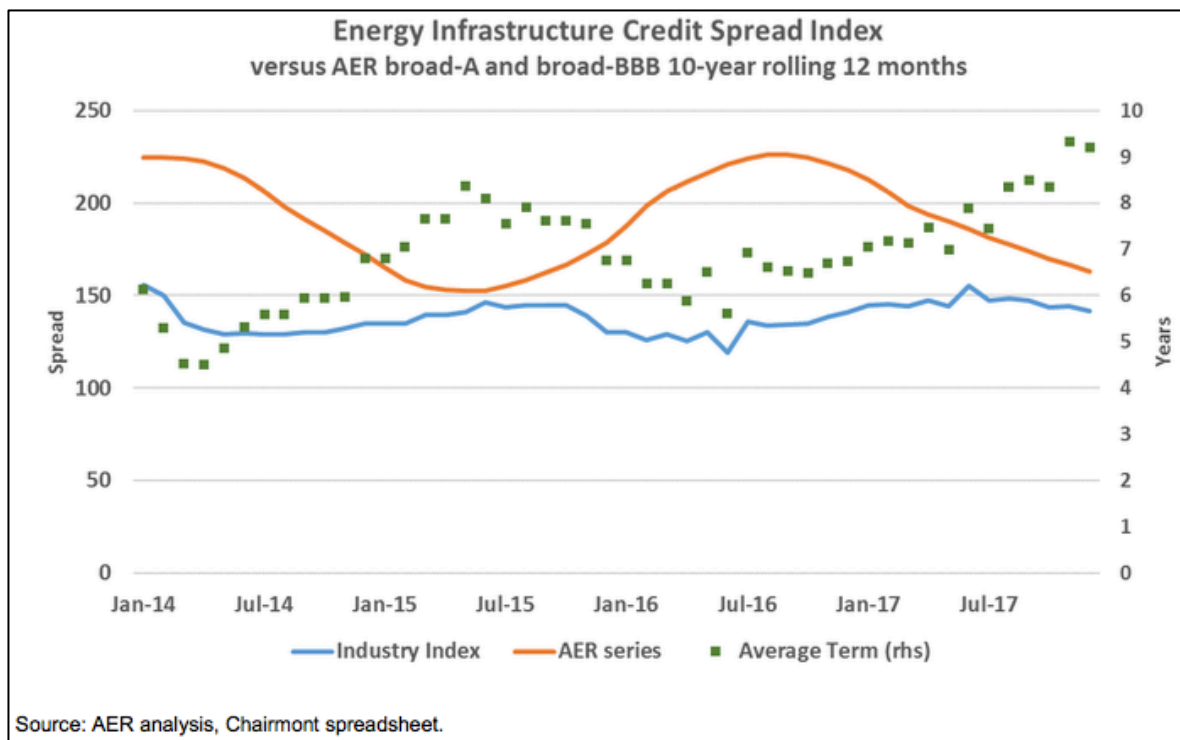
<sup>44</sup> Ibid, p11. This is consistent with CCP16's observations on the rise in ratings for a number of the NSPs since 2013.

<sup>45</sup> See Ibid, p10, Graph 3. While the average rating of bonds issued has risen it remains within the BBB+ range.

(average of BVAL and RBA curves).<sup>46</sup> The AER found that there is an average difference in matched yields of 30 basis points, although the difference was also time variant. The AER observes that this time variation may be driven by a number of factors but overall, there is more variation in the published third party yield curves than in the spreads on issued debt. In other words, it is the volatility of the yield curves rather than the ESCRI that drives differences between the yield curves and the observed debt costs.

Figure 1 above illustrates this point. Figure 4 below uses the same underlying data and finds the same trend albeit modified by using a weighted average of broad-A and broad-BBB yield curves. That is, while there are several factors that may drive a wedge between the EICSI results and the market based indices, the difference between debt margins for the broad-BBB and the observed average BBB+ ratings is likely to be a significant factor. The AER’s weighting of the A and BBB curves addresses this gap to some degree.

**Figure 4: Impact of using a weighted average of the broad-A and broad BBB yield curves (credit spread over bank swap rate)**



Source: AER, *Discussion Paper – Estimating the allowed return on debt*, May 2018, Figure 4, p39.

As the AER points out, one option would be to use a weighted average of the broad A and broad BBB BVAL and RBA series to provide an estimate for BBB+ that is more likely to be unbiased. The difficulty is determining the weights to apply. The AER tested a weighting of 2/3 broad-BBB and 1/3 broad-A rating as illustrated in Figure 4 above. This approach reduced the average difference noted

<sup>46</sup> More specifically, the AER states (p36) that it has “compared the spreads on issued debt against an average credit spread estimated using the BVAL and RBA broad-BBB curves at matched terms” (p36). That is, the AER matches the date of issuance with the blended curves observed at the same date and matches the term of the issuance with the relevant bond curve from BVAL and RBA. By controlling for these factors, the AER is able to isolate other drivers of the difference between the two EICSI and the market bond series.

above from 30 basis point to 12 basis points. Figure 2 (above) suggests that the AER's weighting may be close to the correct balance between the two.

*Conclusions on the implementation of the benchmark credit rating:*

While we recognise that there are other factors that determine the differences in matched yields we support the approach in principle of using a weighted average of the broad-BBB and broad-A series to provide a better estimate of the margin for BBB+. This represents an incremental change that is supported by finance market principles and data that we consider meets the 'high hurdle' for change that we have supported.

The data presented by the AER weighting of 1/3-2/3 reduces the current bias but does not eliminate it. We consider that the AER should undertake further research to verify the analysis and test other weightings, but considered this approach could be implemented in a binding instrument. While requiring some recalculation of the historical data, the suggested weighting would no fundamentally disrupt the continuity of the transition process and the achievement of revenue neutrality over time.