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7 January 2011

Discussion Paper: Measuring the Debt Risk Premium: A Bond Yield Approach
Economic Regulation Authority
PO Box 8469
Perth Business Centre
PERTH WA 6849

Attention: Dr Duc Vo, Senior Analyst

Dear Dr Vo

Measuring the Debt Risk Premium: A Bond Yield Approach

Western Power welcomes the opportunity to respond to the Economic Regulation Authority's (ERA) Discussion Paper – *Measuring the Debt Risk Premium: A Bond Yield Approach* that was released 1 December 2010.

Western Power will submit revisions to its access arrangement by 1 October 2011, which will include the calculation of the weighted average cost of capital (WACC) that will apply to the third access arrangement period. The debt risk premium is a key element of the calculation of Western Power's WACC which is in turn used to determine Western Power's target revenue over the access arrangement period.

Western Power's primary concern with the ERA's proposed approach to determining the debt risk premium is that it will systematically underestimate the cost of debt for a benchmark electricity network business. Western Power contends that moving away from a 10 year term to maturity for estimating the debt risk premium would not be consistent with the debt financing practices of regulated electricity businesses and would be expected to under-compensate the benchmark electricity networks business.

Western Power has engaged KPMG to analyse and prepare a report on the ERA's proposed approach as prescribed in the Discussion Paper to ensure a response could be made within the tight submission deadline. A copy of this report is attached. The KPMG paper addresses the five questions raised by the ERA. Western Power supports the views expressed in this paper, in particular:

1. **ERA to reconsider the use of Bloomberg fair yield curves to calculate the debt risk premium**

   Western Power does not believe that there is sufficient evidence to exclude the Bloomberg yield curves from the calculation of the debt risk premium, for the following reasons:

a. The ERA analysis comparing the Bloomberg 7 year fair yield curve with observed yields does not include all of the bonds that match the ERA's search criteria (Bank of Queensland and BBI/DBCT are not in the graph). Inclusion of these bonds results in the Bloomberg 7 year fair yield curve being a better match to the observed bond yields in the Australian bond market.

b. The term to maturity assumption in the Bloomberg fair yield curves better aligns with the 10 year term that currently underpins other elements of the WACC, such as the risk free rate.

c. Other Australian regulators continue to include the Bloomberg yield curves in the calculation of the debt risk premium.

d. KPMG has found that extrapolating the Bloomberg BBB 7 year fair yield curve using the spread between 7 and 10 year Commonwealth Government Securities yields represents a close proxy to the Bloomberg BBB 10 year fair yield curve.

2. 10 year borrowing term should be maintained

Western Power does not believe that there is sufficient evidence to move away from the assumed borrowing term of 10 years. Adopting a shorter term than 10 years will understate the debt risk premium applicable to an infrastructure business, for the following reasons:

a. Infrastructure businesses adopt long term financing practices which are consistent with the life of the assets that underpin their business. There is evidence to support the practice of long term financing through Australian businesses recent bond debt issuance in Australia (over the past 6 months) and offshore (over the past 12 months).

b. The AER's first review of the cost of capital parameters for electricity transmission and distribution businesses regulated under the National Electricity Rules (which was completed in May 2009) considered moving to a 5 year debt financing assumption and found that such a maturity assumption would not be consistent with the actual debt financing practices of regulated electricity businesses. The AER concluded that adopting a 5 year term would be expected to under-compensate the benchmark business.

3. Methodology should be consistent with that adopted by other Australian Regulators

To provide certainty, it is beneficial for the debt risk premium methodology adopted by the ERA to be consistent with the methodology adopted by other Australian regulators, such as the AER and IPART

Western Power would like the ERA to clarify whether the methodology for measuring the debt risk premium will be published as part of a determination of a methodology for calculation of weighted average cost of capital, as allowed for under section 6.65 of the *Electricity Networks Access Code 2004*.

Western Power highlights that the revisions to its access arrangement (due for submission to the ERA by 1 October 2011) will include a comprehensive analysis of all the WACC parameters (including the debt risk premium) and full justification for the WACC applicable to the third access arrangement period. Western Power expects that the access arrangement revisions submission and decision process will not be unduly discriminated by this current process which has been subject to challenging time constraints over the holiday period as foreshadowed in Western Power's request for an extension. Western Power looks forward to further considered discussions with the ERA on determining an appropriate methodology for measuring the debt risk premium to be applied for the third access arrangement period.

Yours sincerely

Phil Southwell
General Manager Regulation & Sustainability

KPMG

Western Power

Submission to the ERA Discussion Paper - Estimating the Debt Risk Premium

January 2011
This report contains 35 pages
WAUGENC-10DRPSubmission_FINAL_060111.doc

Inherent Limitations

This report has been prepared as outlined in Section 1.3. The services provided in connection with this engagement comprise an advisory engagement, which is not subject to assurance or other standards issued by the Australian Auditing and Assurance Standards Board and, consequently no opinions or conclusions intended to convey assurance have been expressed.

References to "review" throughout this report have not been used in the context of a review in accordance with Australian Auditing Standards and Australian Standards on Review Engagement.

The findings in this report are based on a desktop study and analysis of relevant issues. A range of data, documents and papers have been considered as part of this process. KPMG have indicated within this report the sources of the information provided. We have not sought to independently verify those sources unless otherwise noted within the report. No warranty of completeness, accuracy or reliability is given in relation to any statements and representations provided by Electricity Networks Corporation, who was consulted as part of the process.

KPMG is under no obligation in any circumstance to update this report, in either oral or written form, for events occurring after the report has been issued in final form.

The findings in this report have been formed on the above basis.

Third Party Reliance

This report has been prepared at the request of Electricity Networks Corporation in accordance with the terms of KPMG's engagement letter/contract dated 14 December 2010.

This report has been prepared solely for the purpose set out in Section 1.2 of this report. It is not to be used for any other purpose without KPMG's prior written consent. Accordingly, neither KPMG nor any member or employee of KPMG accepts responsibility in any way whatsoever for the use of this report for any purpose other than that for which it has been prepared.

Contents

1 Executive summary

1.1 Introduction

On 1 December 2010, the Economic Regulation Authority ("ERA") released a discussion paper on the methodology for estimating the debt risk premium ("DRP") within the context of estimating a weighted average cost of capital ("WACC") for regulated businesses.

The discussion paper proposed a new approach for estimating the DRP which is an input in the determination of an appropriate WACC. The driver for proposing a new approach was the fact that two of the key sources of information which the ERA has previously relied upon for estimating the DRP, have ceased publication of relevant data. As a result, it is no longer possible to apply the DRP estimation methodology previously adopted by the ERA and a new approach is required.

The ERA is seeking comments from interested parties on its proposed methodology for estimating the DRP. In particular, it is seeking comment on five key questions, which are outlined below:

1 Is the Authority's proposed approach of estimating the debt risk premium likely to better reflect the prevailing conditions in the market for funds than the use of current Bloomberg's estimates of fair yield curves?

2 Is the use of a benchmark sample of Australian corporate bonds with a term shorter than 10 years likely to better reflect the prevailing conditions in the market for funds than the use of Bloomberg's estimates of fair yield curves to derive a 10-year term?

3 Is the Authority's proposed approach to the selection of Australian corporate bonds appropriate?

4 Which method for calculating the weighted average of observed yields from the sample should be used?

5 Are there any relevant sources of information that the Authority has not considered in this discussion paper with regard to estimating the debt risk premium?

1.2 Purpose of report

This report has been prepared for the sole purpose of providing Western Power with information that can be incorporated into its submission to the ERA in response to the consultation paper on estimating the debt risk premium.

1.3 Scope of work

Our scope of work requires us to consider any relevant data and evidence which may assist Western Power in responding to each of the five questions posed by the ERA.

1.4 Conclusions

The following points summarise our key observations in relation to the ERA's proposed methodology for estimating the debt risk premium.

- We do not consider that the Authority has appropriately justified the case for its preference to adopt the proposed bond-yield approach. The backtesting that we have undertaken using historical Bloomberg data indicates that the results obtained by extrapolating the Bloomberg BBB 7 year fair yield curve using the spread between 7 and 10 year Commonwealth Government Securities yields represent a close proxy to the Bloomberg 10 year fair yield curve. Additional analysis that we have undertaken also does not suggest that Bloomberg's estimate of the 7 year BBB fair yield curve is substantially different from the observed bond yields in the Australian bond market, as the ERA has claimed.

- It therefore also follows that the Authority has not provided appropriate justification for the proposal to shift away from the assumption of a 10 year borrowing term. As the discussion in this report highlights, Australian infrastructure businesses tend to have a preference for and use of longer dated funding and the corporate bond debt issuance of such businesses both in Australia (over the past 6 months) and offshore (over the past 12 months) supports this observation. Given that the DRP is being estimated for the benchmark business, it is appropriate for the ERA to take into account the preference of such businesses in estimating the DRP.

- We do not consider that the ERA's selection criteria produces a benchmark sample of Australian corporate bonds which would better reflect the prevailing conditions in the market for funds as compared with the 10 year BBB fair yield estimates obtained by extrapolating the Bloomberg BBB 7-year fair yield curve. The ERA's illustrative benchmark bond sample includes bonds with terms to maturity as low as 2 years whereas data on corporate bond debt issuance over the past 6 to 12 months indicates that Australian infrastructure businesses tend to have a preference for and use of longer dated funding. We do not consider bond pricing observations of less than 5 years to be of relevance when determining the cost of debt for a benchmark business. We also note that the AER has comprehensively analysed the question of moving to a 5 year debt financing assumption and found that such a maturity assumption would not be consistent with the actual debt financing practices of regulated electricity businesses[1]. On average, the AER concluded that adopting a 5 year term would be expected to under-compensate the benchmark business.

- Although constraining maturities to over 5 years may result in a smaller sample size, including securities with short terms to maturity in the benchmark bond sample also raises an equally if not more important concern in relation to the derivation of the DRP estimate. In a positive yield curve environment, subtracting a shorter dated security from a longer dated base/risk free rate is expected to systematically understate the DRP, and possibly by a material amount depending on the shape of the underlying yield curve.

- We have a number of issues in relation to the Authority's proposed approach to the selection of Australian corporate bonds, including the appropriateness of subordinated securities, hybrid securities and financial institutions / structured transactions. Our most significant

[1] AER Final Decision, Electricity transmission and distribution network service providers – Review of the weighted average cost of capital parameters, May 2009, p. 168.

concern relates to the proposal to consider bonds with a term to maturity shorter than 5 years. In relation to the inclusion of FRNs, we do not have any objection to the inclusion of such securities subject to agreement on the pricing methodology, but note that further clarification is required on why the five FRNs that we have identified were omitted from the ERA's benchmark bond sample.

- Whilst we do not support the ERA's proposed bond yield approach, we consider that of the four weighting methods considered by the ERA, the most relevant method of weighting is the weighting according to term to maturity. This is because longer dated issuance are more relevant for determining the debt risk premium for long asset life infrastructure businesses. However, we consider that the ERA should clarify or publish the underlying data used to derive the results under this weighting method as we were unable to replicate the ERA's calculations.

- Whilst we do not support the ERA's proposed bond yield approach, we also suggest that consideration be given to the development of a weighting mechanism which takes into account the industry of the issuer given that sector differences do impact on bond yields. One way to achieve this would be to group issuers into two industry categories – "Infrastructure & Utilities" and "Other" and assign a higher weighting to the former. The decision on what would be an appropriate weighting should be subject to industry consultation.

- We appreciate that there are data challenges for the ERA to overcome in deciding on an appropriate methodology for estimating the DRP, and acknowledge the concerns that the ERA has raised in relation to Bloomberg fair value curves and the extrapolation approach currently adopted by the AER. However, we would urge the ERA not to overlook the "bigger picture", and to ensure that the WACC outcomes which are ultimately derived for the businesses that it regulates do not reflect artificial differences with those businesses that are regulated by the AER. In principle, there should not be artificial differences between the rates of return allowed on regulated infrastructure in Western Australia versus those in eastern Australia, other than those differences that are attributable to differences in risk (perceived and actual). Any such differences would adversely impact on investment in regulated infrastructure in Western Australia.

Overall, we do not consider that there is sufficient evidence or rationale to move away from the assumed borrowing term of ten years. In the event that the ERA decides to proceed with the proposed bond-yield approach for estimating the DRP, we consider that it is necessary for the ERA to further refine the bond selection criteria under the Bloomberg "search" function, provide information on the bond pricing data points that it has relied upon, and consider a weighting mechanism that gives greater weight to bond pricing observations from issuers in the infrastructure and utilities sector.

2 Summary of the ERA's proposals

The ERA's December 2010 discussion paper on "*Measuring the Debt Risk Premium: A Bond-Yield Approach*" outlines the approach that the ERA is proposing to adopt for measuring the debt risk premium ("DRP") for input into its estimation of the required rate of return for the businesses that it regulates and also when undertaking inquiries referred to the Authority by the State Government. A number of developments have prompted the ERA to develop a new approach for measuring the DRP:

1 Firstly, whilst the ERA (and most Australian regulators) has conventionally adopted a BBB+ credit rating and 10 year borrowing term assumption in estimating the DRP, the shortening of the fair yield estimates published by Bloomberg (a key source of data for Australian regulators) since 2007 has made it necessary for regulators, including the ERA, to adopt various ways of extrapolating shorter duration fair yield estimates to a 10 year term. The ERA has expressed concern that should Bloomberg data continue to become more limited, such extrapolations potentially introduce significant inaccuracies in the estimation of a BBB+ 10 year yield. The principal alternative source of data for regulators – CBASpectrum – has also ceased publication of its fair value estimates for Australian corporate bonds across all credit ratings.

2 Secondly, the ERA has noted that in the recent Australian Competition Tribunal's decision on an appeal by ActewAGL in 2010, the ACT observed that the Australian market for 10 year bond issuance was highly illiquid. On this basis, the ACT suggested that continued estimation of the yield on a bond which was now no longer commonly issued was questionable.

3 Thirdly, the ERA has expressed concern with the approach recently adopted by the AER in its recent final decision on the Victorian electricity distribution businesses in October 2010. In that decision, the AER assigned a weight of 75% to a 10 year bond yield estimate obtained by extrapolating 7 year BBB fair yield estimates from Bloomberg data, and 25% to a bond issued by the APA Group. The ERA, however, considers that whilst the APA Group bond is a relevant benchmark, it should not be the only benchmark adopted in measuring the DRP. The ERA considers that for the purpose of estimating the DRP, there would be merit in expanding the sample of bonds to include bonds with varying terms to maturity.

4 Lastly, the ERA has noted that IPART has recently raised similar concerns over the estimation of the DRP, although no decision has yet been made on how it will address the matter.

Given the ERA's views on the above developments, the ERA has proposed to "*discontinue the previous practice of basing the debt risk premium on a 10-year corporate bond using Bloomberg's extrapolated data but rather to base the debt risk premium on:*

- *a sample of bond yields of varying terms to maturity; and*
- *a sample excluding the Bloomberg's yield curves.*"[2]

Specifically, the ERA is proposing to:

[2] ERA, Discussion Paper, Measuring the Debt Risk Premium: A Bond-Yield Approach, 1 December 2010, page 8.

"...adopt the following approach to determine the sample of Australian corporate bonds to be used to estimate the debt risk premium, using the "search" function from Bloomberg:

- *credit rating of BBB-/BBB/BBB+ by Standard & Poor's;*
- *time to maturity of 2 years or longer;*
- *bonds issued in Australia by Australian entities and denominated in Australian dollars;*
- *inclusion of both fixed bonds and floating bonds; and*
- *inclusion of both Bullet and Callable/Putable redemptions."*[3]

Only bonds in the sample which are currently traded in the proposed average period are to be included in the sample of bonds used to derive the debt risk premium.

Once the sample of bonds is established, the ERA considers that there are a range of weighting approaches that could be adopted to arrive at a point estimate, including:

- a simple average (or equally weighted approach);
- a "number-of-years-until-maturity" approach (in which bonds with more years to maturity are given greater weight than bonds with fewer years to maturity);
- an "amount-issued" approach (where more weight is given to bonds issued in greater amounts); and
- an approach where the median of a sample is used.

Implications of the ERA's proposal

As noted above, the ERA's proposal to expand the sample of bonds involves adopting all corporate bonds which are rated BBB-, BBB and BBB+ by Standard and Poor's (S&P), with maturities 2 years or longer. Depending on the maturities of the bonds included in the sample, the yields derived from such a sample could potentially be of significantly shorter duration than 10 years. This could give rise to issues of theoretical consistency between the DRP and other WACC parameters (e.g. the duration of the risk free rate of return and the expected inflation rate).

The ERA has acknowledged this but notes that it there is trade-off between theoretical consistency and how well the DRP estimate reflects prevailing conditions in the market for funds. The ERA is of the view that the latter issue should carry more weight because:

- continued estimation using methods which rely on extrapolating Bloomberg data are inherently unstable because of the risk the Bloomberg will continue to shorten its fair yield estimates;[4] and

[3] ERA, Discussion Paper, ibid, page 11.

- moving away from the 10 year term will provide for a larger sample of Australian corporate bonds to be considered, which should improve the estimate of the DRP.

[4] The Authority is also concerned that Bloomberg's method of estimating fair yield curves is not transparent to the public and as such cannot be replicated.

3 Question 1

Is the Authority's proposed approach of estimating the DRP likely to better reflect the prevailing conditions in the market for funds than the use of current Bloomberg's estimates of fair yield curves?

3.1 Basis for the ERA's proposals

The ERA has proposed to adopt a "bond yield approach" to estimate the debt risk premium. This approach relies on the actual yields observed directly from a sample of corporate bonds of varying terms to maturity in the Australian financial market, using the "Search" function on Bloomberg.

This approach is a shift away from the ERA's previous practice of relying on the Bloomberg fair yield curve for 10-year BBB Australian corporate bonds, which have typically been consistent with actual yields for bonds of the same rating trading in the market at that time, to determine the DRP.

A new approach was required following the cessation of publishing of a number of the key data sources from service providers such as Bloomberg and CBASpectrum that regulators have previously relied upon to estimate the DRP. For example, since October 2007, Bloomberg has progressively ceased publication of the following fair yield curves:

- 10-year BBB fair yield curve (ceased in October 2007);
- 8-year BBB fair yield curve, 10-year and 8-year A fair yield curves (all August 2009); and
- 10-year and 7-year AAA fair yield curves (June 2010).

As a result, the ERA considers that it is no longer appropriate to rely on Bloomberg fair yield curves to set the DRP for the following reasons:

- Bloomberg's estimate of the 7-year BBB fair yield curve is substantially different from actual yields observed in the Australian bond market because volumes traded in the market are relatively "thin" and lower than desirable for the derivation of average values following the global financial crisis;
- the maximum duration of Bloomberg's current fair yield curves for BBB rated corporate bonds is currently 7 years and is well below the 10-year time period which the ERA has typically used to set the DRP; and
- as Bloomberg's methodology to estimate its fair yield curves is not released to the public, any approach which relies upon these fair yield curves to estimate the DRP is not transparent or replicable.

The ERA considers its proposed "bond yield" approach is preferable to previous regulatory practice because it is:

- stable because it no longer relies on Bloomberg's estimates of fair yield curves for Australian corporate bonds and there is likely to be sufficient number of bonds trading in the Australian market for the ERA to include in its own sample; and

- transparent because stakeholders will be able to replicate the ERA's estimate of the DRP provided they have access to Bloomberg.

3.2 Our response

In our view, it is not possible to conclude whether the Authority's proposed approach of estimating the DRP is likely to better reflect the prevailing conditions in the market for funds than the use of current Bloomberg's estimates of fair yield curves. This is because many of the securities in the ERA's illustrative sample of bonds either did not exist at the time the Bloomberg 10 year BBB fair yield estimates were published or do not have a sufficient pricing history coinciding with that period, and hence, we are unable to conduct any backtesting to determine if the ERA's approach would have produced a better proxy than alternative approaches.

However, we are able to backtest the extrapolation approach recently adopted by the AER in its October 2010 final decision on the Victorian electricity distribution businesses. As the analysis in Section 3.2.2 shows, the results obtained by extrapolating the Bloomberg BBB 7 year fair yield curve using the spread between 7 and 10 year Commonwealth Government Securities yields represent a close proxy to the Bloomberg 10 year fair yield curve.

3.2.1 Discussion on the ERA's position

We are concerned about the view expressed by the ERA in its discussion paper about the quality of Bloomberg fair yield curves, which the ERA has relied upon to justify its proposal to cease to adopt an extrapolation approach. Whilst we concur that Bloomberg's methodology for deriving fair yield estimates are not transparent, we do not consider that the ERA has properly justified its claim that "*Bloomberg's estimate of the 7-year BBB fair yield curve is substantially different from the observed bond yields in the Australian bond market...*"[5].

In our view, the data shown in Figure 2 of the ERA's discussion paper (reproduced below) does not appear to support the ERA's claim.

[5] p 4, ERA's Discussion Paper on Measuring the Debt Risk Premium: A Bond-Yield Approach, December 2010

Figure 1: Chart of Bloomberg7 year BBB Fair Yield Curve as shown in ERA's discussion paper

Figure 2. Bloomberg's 7-year BBB Fair Yield Curve and Observed yields for BBB/BBB+ Australian corporate bonds, 19 August 2009 – 31 October 2010

Source: Bloomberg

Contrary to the ERA's claim, the 7 year BBB fair yield curve produced by Bloomberg appears to fall within the range of observed yields shown in Figure 2 of the discussion paper. Any differences between the Bloomberg 7 year BBB fair yield curve and the data in Figure 2 could be attributed to differences in maturities, security-specific factors and/or industry conditions, since the yields shown in Figure 2 relate to corporate bonds issued by companies in different sectors and are of different maturities.

We also note that there are only 13 securities shown alongside the Bloomberg 7 year BBB fair value curve in the chart above as compared with 15 securities listed in Table 3 of the ERA's discussion paper, and that there is duplication of the curve relating to the DBNGP Finance 2015 security. If the curve for the Bank of Queensland is included in the chart, we note that it would lie above the Bloomberg 7 year BBB fair value curve.

Overall, we consider that the ERA's decision to reject the extrapolation approach is unfounded. Given that it is not transparent what adjustments are made by Bloomberg to the prices of individual securities in deriving the 7 year BBB fair value curve, it is in our view, not possible to draw the conclusions that the ERA has made about the 7 year BBB fair value curve.

We also contend that the ERA's proposal to include in its benchmark bond sample, bonds with terms to maturity as short as 2 years, dos not result in a more accurate determination of the DRP. Our views on this matter are outlined in detail in Section 4.2 of this report.

3.2.2 Additional considerations

Backtesting the AER's extrapolation approach

The ERA has expressed the view that the extrapolation approach will continue to be unstable given the potential for further shortening of the fair yield curves produced by Bloomberg, thereby potentially introducing significant inaccuracy into the 10 year yield estimation process. However, the ERA's discussion paper does not provide any analysis to support the size of the claimed inaccuracy nor its direction.

In principle, and under normal credit market conditions, extrapolating 7 year BBB fair yield estimates with the spreads observed from higher rated bonds (which is one component of the approach adopted by the AER) can be expected to lead to more conservative estimate of the 10 year BBB bond yield. This is because lower rated bonds have a higher probability of default vis-à-vis their higher rated counterparts and this exposure typically increases at longer maturities and manifests as larger spreads at the longer end of the curve.

To test this presumption and to gauge the size of any bias which may exist, we have performed some historical analysis or backtesting of the extrapolation approach recently adopted by the AER in its October 2010 final decision on the Victorian electricity distribution businesses. The approach taken was to compare the 10 year BBB fair value yield curve estimates published by Bloomberg (for the periods they are available) with the Bloomberg 7 year BBB curve plus the difference between the 7 year and 10 year Bloomberg Australian Commonwealth Government fair value curves (as a proxy for a tenor premium between the 7 and 10 year BBB curves). The above method of extrapolating the Bloomberg BBB 7 year curve is considered in a recent discussion paper issued by the AER[6].

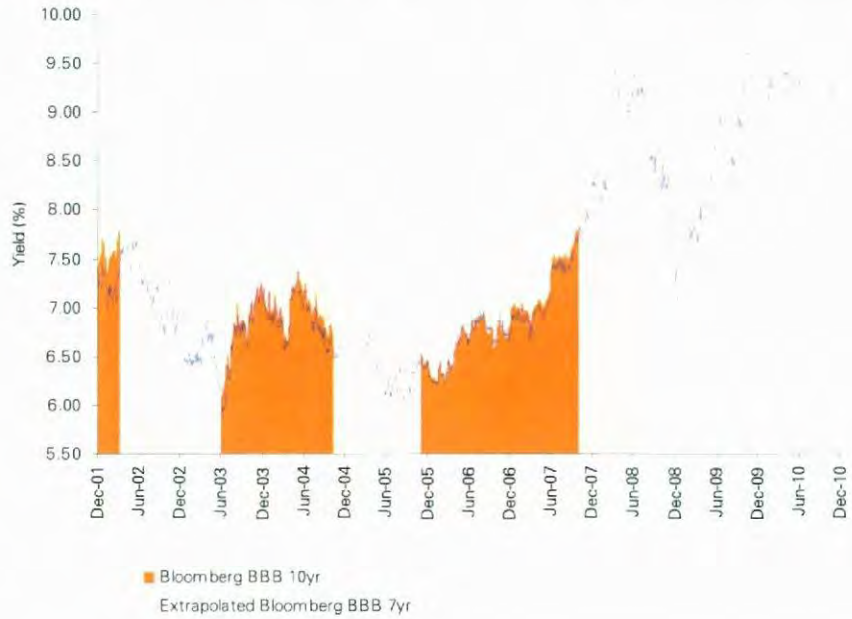
There are three historical periods where Bloomberg has published 10 year BBB fair value yield curve estimates, namely:

- Period A: 4 December 2001 to 14 March 2002
- Period B: 11 June 2003 to 20 October 2004
- Period C: 10 November 2005 to 9 October 2007

The results, illustrated in Figure 2 below, would appear to suggest that the Bloomberg BBB 7 year extrapolation method is a reasonably good proxy for the Bloomberg BBB 10 year fair value yield curve for the periods under consideration.

[6] AER draft approach for measuring the debt risk premium for the Victorian Electricity Distribution Determinations, 27 September 2010.

Figure 2: Bloomberg BBB 10 year fair yield curve versus extrapolated Bloomberg BBB 7 year fair yield curve



Source: Bloomberg

Numerical averages from the above analysis are summarised in Table 1 below. We note that on average the extrapolated Bloomberg BBB 7 year curve was lower than the Bloomberg BBB 10 year curve across all periods, indicating that it represents a close, but conservative proxy. In all periods except for Period A (which is also a shorter time series), the differences between the two approaches are not considered material, and on this basis, the ERA's suggestion that the extrapolation approach which is currently adopted by regulators such as the AER is "problematic" due to the significant inaccuracies that could be introduced does not appear to be justified.

Table 1: Average daily Bloomberg BBB 10 year fair yield curve and extrapolated Bloomberg BBB 7 year fair yield curve

Period	Bloomberg BBB 10 year yield	Bloomberg BBB 7 year extrapolated yield	Difference
Period A: 4 December 2001 to 14 March 2002	7.55%	7.23%	0.33%
Period B: 11 June 2003 to 20 October 2004	6.92%	6.84%	0.08%
Period C: 10 November 2005 to 9 October 2007	6.88%	6.85%	0.03%
Total average (Periods 1-3)	**6.95%**	**6.88%**	**0.07%**

Source: Bloomberg, KPMG analysis

We acknowledge, however, that the analysis that we have undertaken does not address the ERA's concerns about the transparency and replicability of Bloomberg's fair yield estimation methodology.

We have not empirically tested whether the observed yields from the securities in the benchmark sample of bonds used in the discussion paper to illustrate the ERA's proposed bond-yield approach, represents a better proxy for the Bloomberg BBB 10 year fair yield curve. This is because for the period that data on the Bloomberg BBB 10 year fair yield curve exists, there are relatively few securities from the benchmark bond sample which were on issue.

One observation we would add is that there are other methods of extrapolating the Bloomberg BBB 7 year curve, including linear extrapolation of the margin or the yield, or adding the difference between the 7 and 10 year bank swap rates (rather the CGS) to the BBB 7 year curve. Further analysis could be undertaken to determine which of the above extrapolation methods is considered the more accurate indicator.

3.3 Conclusion

In summary, we do not consider that the Authority's has appropriately justified the case for its preference to adopt the proposed bond-yield approach. The backtesting that we have undertaken using historical Bloomberg data indicates that the results obtained by extrapolating the Bloomberg BBB 7 year fair yield curve using the spread between 7 and 10 year Commonwealth Government Securities yields represent a close proxy to the Bloomberg BBB 10 year fair yield curve. Additional analysis that we have undertaken also does not suggest that Bloomberg's estimate of the 7 year BBB fair yield curve is substantially different from the observed bond yields in the Australian bond market, as the ERA has claimed.

It therefore also follows that the Authority has not provided appropriate justification for the proposal to shift away from the assumption of a 10 year borrowing term. As the discussion at Section 4.2.2 of this report later highlights, Australian infrastructure businesses tend to have a preference for and use of longer dated funding and the corporate bond debt issuance of such businesses both in Australia (over the past 6 months) and offshore (over the past 12 months) supports this observation.

4 Question 2

Is the use of a benchmark sample of Australian corporate bonds with a term shorter than 10 years likely to better reflect the prevailing conditions in the market for funds than the use of Bloomberg's estimates of fair yield curves to derive a 10-year term?

4.1 Basis for the ERA's proposals

The ERA has proposed to include all bonds with maturities of 2 years or longer in its sample to estimate the DRP. This is a departure from the ERA's previous practice of relying on fair yield curves as estimated by Bloomberg and CBASpectrum to derive a 10-year term.

The ERA notes there is a trade-off between "consistency" between the DRP and other WACC parameters in terms of a 10-year term, and the concept of "market relevance" which relates to the question of how well the estimates of the DRP are aligned with the prevailing market conditions.

The ERA considers that the lack of observable bonds in the Australian market with terms to maturity of 10 years warrants selection of a broader sample of bonds with varying terms to increase the market relevance of its estimates. It has suggested that including bonds with maturities of at least 2 years would provide for a larger sample of Australian corporate bonds to be considered, which should improve market relevance of the DRP estimate.

The ERA argues that there are sufficient reasons to depart from the 10-year term adopted in previous regulatory decisions on the DRP.

- There is a significant deviation between Bloomberg's estimate of the 7-year BBB fair yield curve (which is the base from which a 10-year BBB fair yield curve is extrapolated) and the observed yields from Australian corporate bonds traded in the financial market.

- The use of 10-year and 7-year AAA fair yield curves will become increasingly outdated if the spread on these curves is used for extrapolation in future regulatory decisions. This is because Bloomberg's estimation of 10-year and 7-year AAA fair yield curves for Australian corporate bonds ceased in June 2010, and hence for averaging periods which fall beyond June 2010, it will no longer be possible to apply this method of extrapolation.

- Bloomberg has progressively shortened its estimates of the fair yield curves across all credit ratings for Australian corporate bonds. Using Bloomberg's current estimates of the BBB fair yield curve with the maximum term to maturity (i.e. 7 years) is problematic because the extrapolation approach could introduce significant inaccuracies into the estimation process.

- Using estimates of Bloomberg's estimates of fair yield curves lacks transparency as Bloomberg's method to estimate the fair yield curves is not disclosed to the public and cannot be replicated.

- It was previously possible to consider data from CBASpectrum as an alternative to Bloomberg, however, CBASpectrum has recently decided to cease publishing its estimates of fair yield curves for Australian corporate bonds across all credit ratings. Hence this alternative is no longer available.

4.2 Our response

We do not consider that the ERA's selection criteria produces a benchmark sample of Australian corporate bonds which would better reflect the prevailing conditions in the market for funds as compared with the 10 year BBB fair yield estimates obtained by extrapolating the Bloomberg BBB 7-year fair yield curve. As we outline below, we consider that a time to maturity of 2 years is too short for the purpose of estimating the DRP, given that the broader context for estimating the DRP is to determine the cost of debt for long term funding.

4.2.1 Discussion on the ERA's position

The ERA has correctly noted that the practice of extrapolating a 10-year BBB fair yield curve from Bloomberg's 7-year BBB fair yield curve, using the spread between the 10-year and 7-year AAA curves, will become redundant for averaging periods beyond 22 June 2010, the last date Bloomberg published this data. However, as our analysis in Section 3 has shown, extrapolation using the spread between 7 and 10 year Australian Commonwealth Government Bond fair yield curves yielded a close (and conservative) proxy for the Bloomberg BBB 10 year fair value curve (when this data existed). On this basis, this method of extrapolation should not be dismissed as an alternative process for estimating the DRP.

In relation to the ERA's proposal to include corporate bonds with maturities of 2 years or longer in its sample, we consider that a time to maturity of 2 years is too short for the purpose of estimating the DRP, given that the broader context for estimating the DRP is to determine the cost of debt for long term funding. A maturity of 2 years is less appropriate in this context and would be more akin to working capital funding for most infrastructure businesses.

We understand that the basis for the ERA's proposal is to ensure there is a sufficient number of bonds in the sample to estimate the DRP, as the *"Australian bond market is very illiquid for long-term bonds with terms to maturity of 5 years and above, with insufficient numbers of bonds traded in the market to generate reliable industry-wide estimates"*[7]. We concur that obtaining a sufficiently sized benchmark sample of bonds can be a challenging task under this environment.

Nevertheless, we consider that the ERA should consider varying the criteria for the bonds included in its sample by increasing the minimum time to maturity to a minimum of 5 years. Our views on this matter are discussed further in the next section.

4.2.2 Additional considerations

Term to maturity vs sample size

As described above, we consider that in principle, a minimum term of five years to maturity be used to identify corporate bonds to be included in the benchmark sample. This position is based on our view that most infrastructure businesses would seek to maintain a weighted average debt maturity profile of longer than 5 years.

In particular we note that it is relatively rare for new domestic corporate bond debt issuance to be for a term less than 5 years, with issuance in the last 6 months from APA, DBNGP, Sydney

[7] p 5, ERA's Discussion Paper on Measuring the Debt Risk Premium: A Bond-Yield Approach, December 2010

Airport and Stocklands all being for a term of 5-10 years. Consequently, we do not consider bond pricing observations of less than 5 years to be of relevance when determining a benchmark cost of capital.

We also note that it is common for Australian infrastructure businesses to source longer dated funding from offshore markets (for example Toll, Asciano, AGL, Energy Gas Partnerships, United Energy Distribution, Electranet and Envestra have all sourced 5-17 year funding from U.S. markets in the last 12 months)[8]. This is indicative of the preference for and use of longer dated funding amongst infrastructure businesses.

In relation to the impact on the ERA's proposed sample of bonds identified in the discussion paper, increasing the minimum term to maturity to 5 years would reduce the number of bonds in the sample to 6 (namely, APT Pipelines 2020, BBI DBCT 2016, Bank of Queensland 2018, Dexus Finance 2017, Mirvac 2016 and New Terminal Finance 2016). Section 6.2.3 of this report contains a more detailed discussion on the impact of this amendment to estimating the DRP. Furthermore, of the bonds with a term to maturity of greater than 5 years, 3 of those bonds would be expected to drop out of the sample over the next 12 months, potentially leaving only 3 bonds in the sample if there is no other new domestic bond issuance added to the sample in the intervening period.

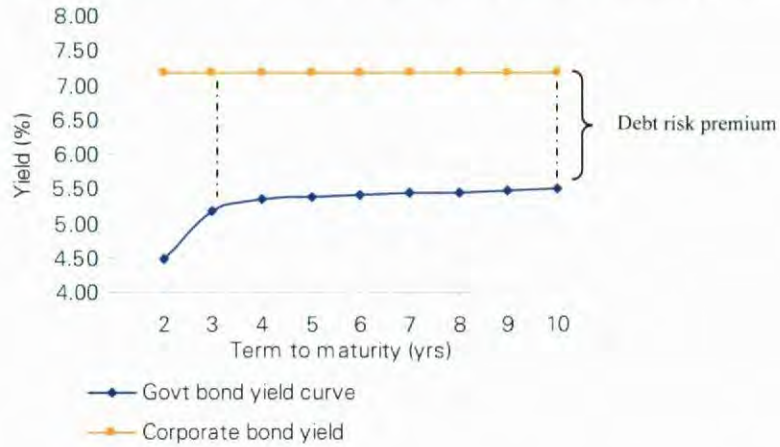
Derivation of the DRP estimate

Clearly, constraining the sample of bonds to include only bonds with a maturity of 5 years of more can be expected to produce a significantly smaller sample size with implications for the reliability of the final DRP estimate. However, the ERA's proposal to include shorter dated bonds raises another – and in our opinion, an equally if not more important - concern in relation to the derivation of the DRP estimate.

We understand that in determining the DRP, the approach proposed by the ERA involves subtracting the observed yield on the identified sample of securities from the 10 year Government bond rate published by the Reserve Bank of Australia. In a positive yield curve environment, subtracting a shorter dated security from a longer dated base/risk free rate is expected to systematically understate the DRP, and possibly by a material amount depending on the shape of the underlying yield curve. Furthermore, we would not consider it common market practice to price a shorter dated instrument by reference to a risk free rate of a materially different term, which will likely be the case with a minimum selection criteria of two (or even five) years to maturity. For example, subtracting the yield on a corporate bond with a term to maturity of three years from a 10 year risk free rate will give a lower debt risk premium than subtracting the yield from a risk free rate that more closely matches the term to maturity of the corporate bond. This is illustrated in Figure 3 below.

[8] Issuances reported by Bloomberg

Figure 3: Illustrative impact of risk free rate tenor on debt risk premium



In relation to some of the shorter dated securities identified in the ERA's bond sample, this impact is illustrated in Table 2 below, which shows a calculated difference in the average debt risk premium for these selected securities of 0.16-0.23% for the sample period.

Table 2: Risk free rate tenor and impact to DRP

Risk free rate tenor and impact to debt risk premium							
	Term to maturity (yrs)	Avg. % yield (20 trading days to 31-Oct-10)	Avg. 10 yr Govt rate (%)	Margin over 10 year Govt rate (%)	Risk free rate to maturity (%)	Margin over risk free rate to maturity (%)	Difference (%)
CLP Australia	2.047	7.175	5.090	**2.085**	4.856	**2.318**	0.233
Snowy Hydro	2.323	7.356	5.090	**2.267**	4.870	**2.486**	0.220
Leighton Finance	3.742	8.666	5.090	**3.577**	4.928	**3.738**	0.161

Source: Bloomberg, RBA, KPMG analysis

4.3 Conclusion

We do not consider that the ERA's selection criteria produces a benchmark sample of Australian corporate bonds which would better reflect the prevailing conditions in the market for funds as compared with the 10 year BBB fair yield estimates obtained by extrapolating the Bloomberg BBB 7-year fair yield curve. The ERA's illustrative benchmark bond sample includes bonds with terms to maturity as low as 2 years whereas data on corporate bond debt issuance over the past 6 to 12 months indicates that Australian infrastructure businesses tend to have a preference for and use of longer dated funding. We do not consider bond pricing observations of less than 5 years to be of relevance when determining the cost of debt for a benchmark business.

Although constraining maturities to over 5 years may result in a smaller sample size, including securities with short terms to maturity in the benchmark bond sample also raises an equally if not more important concern in relation to the derivation of the DRP estimate. In a positive yield curve environment, subtracting a shorter dated security from a longer dated base/risk free rate is expected to systematically understate the DRP, and possibly by a material amount depending on the shape of the underlying yield curve.

5 Question 3

Is the Authority's proposed approach to the selection of Australian corporate bonds appropriate?

5.1 Basis for the ERA's proposals

To determine the sample of bonds to be used, the ERA intends to use the "Search" function from Bloomberg to only include Australian corporate bonds that meet the following criteria:

- the bonds must have a credit rating of BBB-/BBB/BBB+ by Standard & Poor's ("S&P");
- the time to maturity on the bonds must be 2 years or longer;
- the bonds must be issued in Australia by Australian entities and denominated in Australian dollars;
- the search will include both fixed bonds and floating bonds; and
- the search will include both Bullet and Callable/Putable redemptions.

This set of selection criteria is considered to be more "pragmatic" given the current depth of the Australian corporate bond market at longer maturities and in various sectors.

The ERA has also noted that the practical advantage of defining the selection criteria in terms of the entries to be made in the "Search" function within Bloomberg is that as soon as any new bond which satisfies the criteria is issued in the market, it will be automatically included in the benchmark bond sample.

5.2 Our response

As outlined in the discussion below, we have a number of concerns with the Authority's proposed approach to the selection of Australian corporate bonds.

5.2.1 Discussion on the ERA's position

We have the following comments in relation to the ERA's proposed search criteria to determine the sample of Australian corporate bonds to be used to estimate the DRP.

- We have no issue with the ERA's proposed approach to include all bonds with a credit rating of BBB-, BBB or BBB+ by S&P (i.e. within the "BBB band") in the sample to estimate the DRP. However, we note that whether or not the resulting DRP estimate is higher than it otherwise would be, depends on the number of BBB- rated bonds which are actually present in the relevant sample and whether or not it is offset by the impact of different industries and terms to maturity on the observed yields in the sample.

- As noted in Section 4 we consider that corporate bonds with terms to maturity of less than 5 years should be excluded from the sample.

- Corporate bonds issued by financial institutions should, in our view be removed from the selection criteria because they typically have materially different capital structures, access to funding, risk profiles and sector regulation compared to non-financial institutions. This is explained further at Section 5.2.2 below.

- We have no issue with the ERA's proposal to include floating rate bonds in the ERA's sample in addition to fixed rate bonds, provided that the yield to maturity data obtained from Bloomberg properly reflects the variability of yields over the life of the bond. This issue is also discussed further at Section 5.2.2 below and at Section 6.2.4.

- We have no issue with the ERA's proposal to include bullet, callable and putable bonds in the sample to estimate the DRP. We note that most corporate bonds issued in Australia are either bullet or callable, but in practice, putable redemptions are uncommon.

5.2.2 Additional considerations

We are able to make some general observations in relation to the ERA's proposed selection criteria and possible refinements thereto, summarised as follows:

- **Australian corporate bonds** – on balance, we agree that the Bloomberg search criteria should be limited to bonds issued in Australia by Australian entities and denominated in Australian dollars. We note that it is common for infrastructure businesses to also source debt funding from offshore markets. Reference to these markets in relation to estimating the DRP, however, can create added complexities, such as estimating the cost of cross currency swaps to convert proceeds back into Australian dollars and to minimise exposure to foreign exchange risk. In addition, not all businesses are able to access offshore markets, and therefore, reference to these markets may disadvantage some regulated businesses compared to others. We also note that it is common for industry participants to utilise bank debt funding, however, Bloomberg only provides limited disclosure of bank debt transactions (given the more proprietary nature of bank debt markets) and this information is covered separately to the Bloomberg bond search function.

- **Credit rating** – the ERA's proposed approach is to select securities only rated in the BBB range by Standard & Poor's (S&P). We note that there are at least two other major rating agencies active in Australia; Moody's and Fitch. The Bloomberg functionality identified by the ERA also includes the option to select bonds in the corresponding Moody's and Fitch rating categories, Baa and BBB respectively. Expansion of the search criteria to include bonds rated in the Baa / BBB range by Moody's and Fitch resulted in the identification of 11 additional securities, of which two could potentially be used in the ERA's benchmark sample, namely a Downer Group Finance 2013 fixed rate bond and a Transurban 2014 fixed rate bond. In relation to the Transurban bond, we note that it is rated by all three major rating agencies and currently has a 'split rating', with two rating agencies putting it in the 'A-' rating range and the third rating agency putting it in the 'BBB+' equivalent rating range. If the ERA's bond search criteria were to be expanded to include multiple rating agencies, then consideration would need to be given to how split ratings are addressed – where the bond/issuer is rated by both an even or an odd number of rating agencies. In the

current Transurban scenario, we would suggest that it be excluded from the benchmark sample as two of the three rating agencies consider it to be in the 'A' rating range.

- **Number of identified securities** – using the selection criteria proposed by the ERA and adjusting for the above comment on credit ratings, we identified a total of 86 securities that match the criteria. A summary breakdown of the 86 identified securities is as follows, with further detail provided in Table 3:

  - 15 fixed rate bonds with quoted yields for the majority (but not all) of the sample period used by the ERA (20-trading days up to 31 October 2010). These 15 securities are those identified by the ERA in Table 3 of its Discussion Paper;

  - 4 fixed rate securities with some historical pricing data (Downer Group Finance 2013, Transurban 2014, Nexus 2017 and Nexus 2019);

  - 5 floating rate notes (FRNs) with some historical pricing data (Brisbane Airport 2016, CLP Australia 2012, CLP Australia 2015, Sydney Airport 2013 and Wesfarmers 2014). It is not clear on what basis these FRNs have been excluded from the ERA's benchmark sample – however, we suspect that their exclusion may be related to concerns over the ease with which these FRN pricing preference points can be observed and interpreted. In relation to the pricing of FRNs, it is our understanding that Bloomberg uses a FRN calculator to price these securities and publishes the price as an implied margin over swap (as opposed to a government risk free rate). To derive an implied yield, the implied margin needs to be added to an underlying swap with the same term to maturity as the FRN. It is our view that it is reasonable to include FRNs in the benchmark sample of bonds, but a pricing methodology would need to be agreed and verified (especially in relation to generating an historical FRN yield time series for individual securities). At Section 6.2.4 of this report, we have analysed the likely impact of including these FRNs in the ERA's benchmark bond sample; and

  - 62 other fixed and floating rate securities with no historical pricing data.

- **Subordination** – of the 85 securities identified by the above search criteria, Bloomberg identifies 23 securities as being subordinated, one of which is included in the ERA's benchmark sample (the Bank of Queensland 2018 bond). It is our view that for the purpose of establishing a sample of bonds which represents a suitable benchmark for determining the DRP, all current and future subordinated securities should be excluded from the sample.[9] Subordinated securities are priced differently to more 'vanilla' debt issuance and are commonly (though not exclusively) issued mainly by financial institutions. Subordinated debt issuances are therefore in our view, less representative of corporate (non-financial institution) borrowings. We also note that some securities may be legally subordinated, whilst other securities are structurally subordinated, and these characteristics may not necessarily be identified by Bloomberg disclosure. As the nature of the subordination impacts on the pricing of the security, further consideration of identified securities may be required.

[9] KPMG have not reviewed the terms of individual securities to confirm the subordination classification applied by Bloomberg.

- **Hybrid securities** – of the 85 securities identified by the above search criteria, Bloomberg identifies two as hybrid securities (Southern Cross Airports 2016 and Macquarie Finance perpetual security)[10]. Whilst neither of these securities currently fall within the ERA's benchmark portfolio, it is our view that all hybrid securities should be excluded from any future sample adopted by the ERA. This is because hybrid securities can have unique features such as equity-like characteristics and/or options which can be exercisable at the discretion of the issuer or the bond holder, all of which can make their pricing more complex and less similar to the way in which senior debt would ordinarily be priced.

- **Financial institutions and structured transactions** – 32 of the remaining 85 securities identified by the above search criteria relate to financial institutions or structured (asset backed) issuance. Whilst none of these securities currently fall within the ERA's benchmark portfolio, it is our view that financial institution issuance should be excluded on the basis that they typically have materially different capital structures, access to funding, cost of funds, risk profiles and sector regulation compared to non-financial institutions. Similarly, it is our view that any future structured (asset backed) issuance should be excluded from the benchmark portfolio on the basis that they typically have different structural credit enhancements, investor base and security pricing compared to more 'vanilla' debt issuance.

- **Security specific factors** – as a general comment we note that some security pricing may be affected by factors that are either unique to the issuer, the instrument or corporate activity related to the issuer. If the ERA's proposed approach to determining the debt risk premium is adopted, we suggest that provision be made for including or excluding particular securities on the basis that they may be affected by factors specific to the individual instrument or issuer (for example, if the market was anticipating and pricing in a change in credit rating, corporate activity or a higher probability of default).[11]

- **Callable and putable redemptions** – in relation to callable redemptions and based on their contribution to the proposed bond sample (only the BBI DBCT Finance bond, after excluding the Bank of Queensland subordinated bond), we consider it reasonable to include callable bonds in the bond search criteria. We note that this approach may need to be reviewed if callable bonds constitute a larger portion of the bond sample or if there are considered pricing anomalies with reference to the above security specific factors. In relation to putable redemptions, we note that no putable bonds are currently identified in the sample (despite the search criteria including putable bonds). On balance, it is our view that putable bonds should be excluded from the search criteria – we note, however, that putable bonds are considered uncommon in the Australian market, and so long as no putable bonds are identified in the sample their inclusion or exclusion from the criteria is academic.

Given the above observations, we suggest that significant further consideration is required by the ERA of its proposed bond selection criteria. In addition, this selection criteria and the methodology used to sort or refine the criteria down from a relatively wide basket of securities

[10] KPMG have not reviewed the terms of individual securities to confirm the hybrid classification applied by Bloomberg.

[11] For example, between March 2009 and May 2009, an Australian dollar denominated medium term note issued by Fairfax Media suffered a significant drop in price (inversely related to the yield) on the prospect of a credit rating downgrade (which subsequently occurred), with the bond price then partially recovering on the announcement of a bond buy-back program to be implemented by Fairfax.

to a more applicable sample needs to be fully substantiated, documented, and subject to adequate industry consultation.

Table 3: Bloomberg bond search results (excluding those securities with no bid price observations)

Short Name	Coupon	Maturity	Yrs to maturity	Amount Issued ($m)	Industry Subgroup	Issue Date	Bloomberg Bid Price	Bid Yield To Maturity	Bloomberg Identifier	Floater Spread (bps)	S&P Rating	Moody's Rating	Fitch Rating	Collateral Type
ERA identified Securities														
APT PIPELINES	7.75	22-Jul-20	9.73	300	Electric-Transmission	22-Jul-10	94.43	8.61	EI325336	N/A	BBB	N/A	N/A	COMPANY GUARNT
BBI DBCT FINANCE	6.25	09-Jun-16	5.61	150	Diversified Finan Serv	09-Jun-06	83.00	10.41	EF461870	N/A	BBB+	Baa2	N/A	SR SECURED
BK OF QUEENSLAND	10.75	04-Jun-18	7.60	140	Commer Banks Non-US	04-Jun-08	105.05	8.89	EH390789	410	BBB	A3	BBB	SUBORDINATED
CLP AUSTRALIA	6.25	16-Nov-12	2.05	325	Finance-Commercial	16-Nov-05	98.44	7.16	EF167960	N/A	BBB	N/A	WD	COMPANY GUARNT
DBNGP FINANCE CO	8.25	29-Sep-15	4.92	150	Gas-Transportation	29-Sep-10	97.77	8.83	EI414656	N/A	BBB-	Baa3	N/A	SR SECURED
DEXUS FINANCE	8.75	21-Apr-17	6.48	180	REITS-Mortgage	21-Apr-10	100.46	8.65	EI223258	N/A	BBB+	Baa1	N/A	COMPANY GUARNT
ENVESTRA VIC	6.25	14-Oct-15	4.96	45	Gas-Distribution	21-Feb-03	98.10	6.71	EC866427	N/A	BBB-	WR	N/A	SR SECURED
LEIGHTON FINANCE	9.50	28-Jul-14	3.74	280	Diversified Finan Serv	28-Jul-09	101.54	8.98	EH911249	N/A	BBB	N/A	N/A	COMPANY GUARNT
SYDNEY AIRPORT F	8.00	06-Jul-15	4.68	175	Finance-Other Services	06-Jul-10	98.19	8.49	EI308853	N/A	BBB	Baa2	BBB	SECURED
MIRVAC GROUP FUN	8.25	15-Mar-15	4.37	150	Real Estate Oper/Develop	26-Mar-10	100.02	8.24	EI195249	N/A	BBB	N/A	N/A	COMPANY GUARNT
MIRVAC GROUP FIN	8.00	16-Sep-16	5.88	200	Real Estate Oper/Develop	29-Sep-10	97.79	8.49	EI414696	N/A	BBB	N/A	N/A	COMPANY GUARNT
NEW TERMINAL FIN	6.25	20-Sep-16	5.89	100	Special Purpose Entity	23-Aug-06	87.00	9.21	EF641357	N/A	BBB	Baa2	N/A	SR SECURED
SNOWY HYDRO LTD	6.50	25-Feb-13	2.32	104	Energy-Alternate Sources	25-Feb-03	98.03	7.49	EC870795	N/A	BBB+	WR	N/A	COMPANY GUARNT
SANTOS FINANCE	6.25	23-Sep-15	4.90	100	Oil Comp-Explor&Prodtn	23-Sep-05	96.82	7.05	EF102609	N/A	BBB+	N/A	N/A	COMPANY GUARNT
WESFARMERS LTD	8.25	11-Sep-14	3.87	400	Retail-Misc/Diversified	11-Sep-09	103.78	7.07	EH964875	N/A	BBB+	Baa1	N/A	COMPANY GUARNT
Other potential identified securities														
DOWNER GROUP FIN	9.75	29-Oct-13	3.00	150	Engineering/R&D Services	29-Oct-09	97.93	10.60	EI022346	N/A	N/A	N/A	BBB-	COMPANY GUARNT
TRANSURBAN FIN	7.25	24-Mar-14	3.40	250	Public Thoroughfares	24-Mar-10	99.36	7.47	EI188381	N/A	A-	Baa1	A-	SR SECURED
NEXUS AUSTRALIA	3.60	31-Aug-17	6.84	190	Special Purpose Entity	31-Aug-07	70.63	9.61	EI204253	N/A	BBB-/*	Baa2	N/A	SR SECURED
NEXUS AUSTRALIA	3.60	31-Aug-19	8.84	190	Special Purpose Entity	31-Aug-07	64.53	9.69	EI204261	N/A	BBB-/*	Baa2	N/A	SR SECURED
BRISBANE AIRPORT	5.13	01-Jul-16	5.67	400	Transport-Services	29-Jun-06	87.77	8.95	EF506908	25	BBB	Baa2	N/A	SECURED
CLP AUSTRALIA	5.57	16-Nov-12	2.05	325	Finance-Commercial	16-Nov-05	96.64	7.83	EF167972	55	BBB	N/A	WD	COMPANY GUARNT
CLP AUSTRALIA	5.67	16-Nov-15	5.05	50	Finance-Commercial	16-Nov-05	89.61	9.12	EF169465	65	BBB	N/A	WD	COMPANY GUARNT
SYDNEY AIRPORT F	5.23	20-Nov-13	3.06	217	Finance Other Services	08-Dec-06	94.36	7.90	EF947765	23	BBB	Baa2	BBB	SR SECURED
WESFARMERS LTD	7.68	11-Sep-14	3.87	100	Retail-Misc/Diversified	11-Sep-09	103.79	7.09	EH964867	260	BBB+	Baa1	N/A	COMPANY GUARNT
BK OF QUEENSLAND	6.30	13-Apr-13	2.45	11	Commer Banks Non-US	13-Apr-10	99.49	6.70	EI211613	145	BBB+	NR	N/A	SR UNSECURED
BK OF QUEENSLAND	6.49	06-Jun-13	2.60	200	Commer Banks Non-US	06-Dec-10	99.67	7.08	EI484205	150	BBB+	A2	BBB+e	SR UNSECURED
CITIPOWER I LTD	5.75	28-Feb-13	2.33	300	Electric-Integrated	28-Feb-03	94.65	8.80	EC874747	68	A-	Baa1/*	N/A	COMPANY GUARNT
DBNGP FINANCE CO	-	29-Sep-15	4.92	425	Gas-Transportation	29-Sep-10	100.29	8.73	EI414668	300	BBB-	Baa3	N/A	SR SECURED
DEXUS FINANCE	9.36	28-Jul-14	3.74	160	REITS-Mortgage	27-Jul-09	107.01	7.87	EH911285	450	BBB+	N/A	N/A	COMPANY GUARNT
SYDNEY AIRPORT F	5.49	20-Nov-14	4.06	700	Finance-Other Services	10-Sep-04	92.68	8.39	ED604935	49	BBB	Baa2	BBB	SR SECURED
SYDNEY AIRPORT F	5.49	20-Nov-15	5.06	300	Finance-Other Services	10-Sep-04	90.78	8.61	ED604947	49	BBB	Baa2	BBB	SR SECURED
SOUTHERN CRO AIR	6.68	20-Dec-16	6.14	650	Airport Develop/Maint	20-Dec-06	97.90	20.06	EF916784	180	BBB-	N/A	N/A	COMPANY GUARNT
SYDNEY AIRPORT F	5.31	20-Nov-21	11.06	200	Finance-Other Services	08-Dec-06	81.50	9.08	EC064076	31	BBB	Baa2	BBB	SR SECURED
SYDNEY AIRPORT F	5.16	11-Oct-27	16.96	659	Finance-Other Services	15-Dec-06	78.96	9.02	EF941135	33	BBB	A3	BBB	SR SECURED
MACQUARIE FIN	6.50	N/A	N/A	400	Finance-Invest Bnkr/Brkr	19-Nov-99	77.40	8.78	EC199833	170	N/A	Baa2	WD	BANK GUARANTEED
SNOWY HYDRO LTD	6.33	25-Feb-13	2.32	66	Energy-Alternate Sources	25-Feb-03	96.25	8.56	EC870811	125	BBB+	WR	N/A	COMPANY GUARNT
SNOWY HYDRO LTD	5.76	25-Feb-13	2.32	53	Energy-Alternate Sources	25-Feb-03	95.13	8.56	EC870799	68	BBB+	WR	N/A	COMPANY GUARNT
TABCORP INVESTME	9.30	01-May-14	3.50	150	Gambling (Non-Hotel)	19-Jun-09	106.26	7.71	EH865788	425	BBB+/*	N/A	N/A	COMPANY GUARNT
TABCORP HLDS	9.30	01-May-14	3.50	284	Gambling (Non-Hotel)	30-Apr-09	105.00	8.44	EH781273	425	BBB+/*	N/A	N/A	COMPANY GUARNT
TRANSURBAN FIN	5.37	10 Nov 15	5.03	300	Public Thoroughfares	10-Nov-05	93.65	7.71	EF069537	31	A-	Baa1	A-	SR SECURED
TRANSURBAN FIN	5.40	10 Nov-17	7.03	300	Public Thoroughfares	10-Nov-05	91.83	7.88	EF069549	34	A-	Baa1	A-	SR SECURED

Source: Bloomberg, KPMG analysis

5.3 Conclusion

As discussed in this section, we have a number of issues in relation to the Authority's proposed approach to the selection of Australian corporate bonds, including the appropriateness of subordinated securities, hybrid securities and financial institutions / structured transactions. Our most significant concern relates to the proposal to consider bonds with a term to maturity shorter than 5 years, which is not only at odds with the actual debt financing practices of Australian infrastructure businesses, but also inconsistent with the conclusions formed by the AER when it previously examined this matter during its first review of the cost of capital parameters for electricity transmission and distribution businesses regulated under the National Electricity Rules (which was completed in May 2009). In relation to the inclusion of FRNs, we do not have any objection to the inclusion of such securities subject to agreement on the pricing methodology, but note that further clarification is required on why the five FRNs that we have identified were omitted from the ERA's benchmark bond sample.

6 Question 4

Which method for calculating the weighted average of observed yields from the sample should be used?

6.1 Basis for the ERA's proposals

The ERA identified four possible "weighting approaches" to determine a point estimate for the DRP from the benchmark sample bond data, each one designed to reflect the relative importance of specific characteristics which are relevant to the DRP.

The ERA's proposed weighting approaches are:

- a simple average (or equally weighted average);
- a "number-of-years-until-maturity" approach (in which bonds with more years to maturity are given greater weight than bonds with fewer years to maturity);
- an "amount-issued" approach (where more weight is given to bonds issued in greater amounts); and
- an approach where the median[12] of the sample is used. For a sample with an odd number of observations, the median value is the value of the single middle observation from the sample. If there is an even number of observations in the sample, then the median is calculated as the average of the two middle values.

One approach proposed by the ERA is to adopt the highest estimate of the above four approaches because this reflects a conservative position (i.e. results in a higher yield and produces a higher DRP than otherwise would have been). This is likely to be a conservative position because (to the extent there are in fact bonds with the specific criteria present in the sample):

- the sample of bonds observed from the market is likely to include "callable" bonds which, in principle, require a higher yield to compensate bondholders, for example, bonds issued by the Bank of Queensland Ltd and BBI DBCT Finance Pty. Furthermore, it is unlikely that in practice there will be "putable" bonds, which typically warrant a lower yield, issued in the Australian bond market in the foreseeable future;
- the sample includes BBB and BBB- bonds which, in principle, should have higher yields in comparison with BBB+ credit rating bonds for regulated business; and
- the regulated businesses have access to bank finance with a lower cost of borrowing in comparison with bond yields.

[12] The median of a sample of observations is the numeric value which separates the higher half of a sample from the lower half when observations from the sample are arranged from the lowest value to the highest value.

6.2 Our response

Whist we do not support the ERA's proposed bond yield approach, we consider that of the four weighting methods considered by the ERA, the most relevant method of weighting is the weighting according to term to maturity. This because longer dated issuance are more relevant for determining the debt risk premium for long asset life infrastructure businesses. We also consider that the ERA should clarify or publish the underlying data used to derive the results under this weighting method as we were unable to replicate the ERA's calculations, and that consideration be given to the development of a weighting mechanism which takes into account the industry of the issuer given that sector differences do impact on bond yields.

6.2.1 Debt risk premium calculation observations

To understand the calculations performed by the ERA we have attempted to replicate the results in Table 4 of its Discussion Paper. Our results are summarised in Table 4 below.

Table 4: Debt risk premium calculation

Debt risk premium - 20 trading days average to 31 October 2010	ERA Calculation	KPMG Calculation	Difference
Simple average	2.775%	2.774%	(0.001%)
Years to maturity weighted average	2.885%	2.902%	0.017%
Amount issued weighted average	2.768%	2.796%	0.028%
Median approach	2.837%	2.958%	0.121%

Source: KPMG analysis

The differences in the above table may be attributable to a number of factors, including possible differences in input data and calculation methodology. The methodology used by KPMG for each calculation is summarised below:

- Simple average = (average of published yields of the 15 securities identified by the ERA for the period 4 October 2010 to 29 October 2010) less the average of the 10 year Government bond rates published by the RBA from the 4 October 2010 to 29 October 2010 (5.090%)[13];

- Years to maturity weighted average = sum of (average yield of each of the 15 securities identified by the ERA for the period 4 October 2010 to 29 October 2010 multiplied by [respective security's years to maturity divided by sum of total number of years to maturity for all 15 securities]) less the average of the 10 year Government bond rates published by the RBA from the 4 October 2010 to 29 October 2010 (5.090%);

- Amount issued weighted average = sum of (average yield of each of the 15 securities identified by the ERA for the period 4 October 2010 to 29 October 2010 multiplied by [issue amount of respective security divided by sum of issue amount for all 15 securities]) less the average of the 10 year Government bond rates published by the RBA from the 4 October 2010 to 29 October 2010 (5.090%);

[13] Period from 4 October 2010 to 29 October 2010 was selected to match the ERA's sampling period, however, we note that this is only a period of 19 trading days, as no rate was published by the RBA on 4 October 2010 due to a public holiday in some States.

- Median = median observation of all published yields of the 15 securities identified by the ERA for the period 4 October 2010 to 29 October 2010) less the average of the 10 year Government bond rates published by the RBA from the 4 October 2010 to 29 October 2010 (5.090%).

Whilst the ERA does not provide the underlying data used in its calculations, we are able to make a number of observations in relation to the yields illustrated in Figure 3 of the ERA's Discussion Paper, which may assist in explaining some of the above differences in calculation of the debt risk premium. In relation to Figure 3 of the ERA's Discussion Paper we note:

- In relation to the source for yield observations:
  - The ERA appears to have sourced yields for all 15 securities commencing 4 October 2010. The data KPMG sourced from Bloomberg did not have published yields on 4 October 2010 for 5 of the 15 identified securities (namely BBI DBCT Finance 2016, New Terminal Financing 2016, Snowy Hydro 2013, Santos Finance 2015 and Mirvac Group Finance 2015). It is not clear if the ERA has used yield observations for these securities for the 4 October 2010 in its calculation of the debt risk premium, and if so, from what source or method of calculation (e.g. carried forward from last trading day, which would fall outside the sample period).
  - Similarly, there are other days in the sample period where yield data is not published for particular securities. It is not clear if the ERA has used yield observations in relation to these securities for these particular days, and if so, from what source.
  - More generally, it would be beneficial to understand the ERA's proposed approach to dealing with gaps in a security's data series. For example, the identified Downer Group Finance 2013 bond only has 7 published yield data points across the 20 trading day sample period. The lack of a continuous data series means this security's contribution to calculation of the debt risk premium will most likely be understated relative to other identified securities in the sample.
- The line representing the Mirvac Group Finance 2016 bond in Figure 3 of the Discussion Paper appears to cease around 21 October 2010. The data KPMG sourced from Bloomberg included published yields in relation to the Mirvac Group Finance 2016 bond all the way through to 29 October 2010. It is not clear if yield data in relation this bond all the way through to 29 October 2010 was in fact used by the ERA in its calculations.

If the above observations do indeed flow through to the data series used by the ERA, or if a different calculation methodology has been applied, further information is required to clarify and understand the impact of the approach taken.

6.2.2 Method for calculating average debt risk premium form observed bond yields

Of the four potential weighting methods for calculating the debt risk premium identified by the ERA, the most appropriate weighting would be weighting according to term to maturity. It is our view that longer dated issuance are more relevant for determining the debt risk premium for long asset life infrastructure businesses, and accordingly, more weight should be given to these securities.

In addition, we suggest consideration be given to the development of a weighting mechanism which takes into account the industry of the issuer. This could include issuers in the resulting sample being separated into two groups – "Infrastructure & Utilities" and "Other" – and that a larger weight be given to the issuers in the former group (subject to consultation with the industry). This approach recognises that issuers in different industries face different risks, and this is reflected in the pricing of securities issued. In relation to this potential approach we note that care must be taken in determining the industry classification (that is, the Bloomberg industry subgroup should not be relied upon, but rather looking through to the underlying issuer or issuer group) and that weighting by industry and remaining term to maturity are not mutually exclusive.

Analysis of this and other potential modifications considered in this report are summarised in the section below.

6.2.3 Other potential modifications to calculating the debt risk premium

Throughout this report, we have made a number of observations and suggested refinements in relation to the approach taken by the ERA in calculating the debt risk premium. The purpose of Table 5 below is to summarise the cumulative numerical impact of these observations on the illustrative benchmark bond sample contained the Discussion Paper, with reference to the sampling period used by the ERA, assuming the sequence of refinements we have suggested are adopted.

Our starting point for the impact analysis is the result from applying the years to maturity weighted average approach, referred to in section 6.2.1 above, noting at the outset that there is a difference between the ERA calculation and the KPMG calculation which requires clarification. Sequential modifications to this approach are as follows:

- Removal of the Bank of Queensland 2018 bond from the sample on the basis it is a subordinated security;
- Inclusion of Downer Group Finance 2013 fixed rate bond on the basis that it meets all of the ERA's other bond selection criteria other than it is rated by Fitch (not S&P);
- Removal of securities that have a term to maturity of less than 5 years on the basis that securities of this duration will most likely not reflect the term (or cost) of new bond issuance;
- Weighting by industry sector, namely "Infrastructure & Utilities" and "Other". In relation to the weighting by industry classification, bonds issued by APT Pipelines, BBI DBCT Finance, CLP Australia, DBNGP Finance, Envestra, Sydney Airport, New Terminal Finance and Snowy Hydro were included in the "Infrastructure & Utilities" sector and were, purely for the purposes of illustration, given a weighting of 75%, whilst bonds issued by Dexus Finance, Leighton Finance, Mirvac Group, Santos, Wesfarmers and Downer Group were included in the "Other" category and given a weighting of 25%;

Table 5: Potential modifications to calculating the debt risk premium

Debt risk premium - 20 trading days average to 31 October 2010	KPMG Calculation	Marginal Change	No. bonds in sample
Years to maturity weighted average	2.902%	-	15
Exclusion of Bank of Queensland subordinated bond	2.855%	(0.047%)	14
Inclusion of Downer Group Finance 2013 fixed rate bond	2.963%	0.108%	15
Minimum term to maturity of 5 years	3.381%	0.418%	5
Weighting by industry sector & term (min. 5 year maturity)	3.439%	0.058%	5

Source: KPMG analysis

It is evident that restricting the term to maturity criteria to 5 years or more has a significant downward impact on the sample size, as well as a material upward impact on the DRP estimate.

For example, if the analysis in the table above were to be extended **sequentially** as follows, we note the following changes to the DRP estimate and the bond sample size:

- if we included the other securities (other than Bank of Queensland) with a minimum term to maturity of 3 years (to give a larger sample, 3 years being selected as a common duration of funding in bank debt markets), the DRP calculation would fall from 3.439%[14] to 3.063% (reflecting a marginal change of -0.376%), and the sample size would increase from 5 to 13; and

- if (further to the above) we included only the identified "Infrastructure & Utilities" securities (with a minimum term to maturity of 2 years) and weighted by term to maturity, the DRP calculation would fall from 3.063%% to 3.016% (reflecting a marginal change of -0.047%), and the sample size would reduce from 13 to 8.

In our opinion, this analysis demonstrates that a higher level of care is required in defining the selection criteria based on term to maturity.

6.2.4 Floating Rate Note pricing observations

As described in Section 5.2.2, we identified 5 FRNs with some historical pricing observations. These observations (quoted by Bloomberg as an implied margin over swap) for the sample period are summarised in Figure 4 below.

[14] This is the DRP estimate for weighting by industry sector and minimum 5 year term.

Figure 4: Bloomberg Floating Rate Note Implied Margins over Swap

Source: Bloomberg

The average Bloomberg implied margin over swap for the 5 securities over the sample period was around 2.309%. These securities have an average term to maturity of just under 4 years. Using the average Bloomberg 4 year swap rate for the 20 trading days to 29 October 2010 (5.458%), gives an average implied yield on these securities of around 7.767%, or an equivalent margin of 2.678% over the average 10 year Commonwealth Government bond rate for the same period. This debt risk premium is nearly 0.10% lower than the simple average debt risk premium calculated in Table 4 above, indicating the inclusion of these FRNs should have a slight downward impact to the simple average debt risk premium for the sample period.

In principle, we have no objection to the inclusion of FRNs in the benchmark bond sample, however, a pricing methodology for FRNs would need to be agreed and verified in the first instance, especially in relation to generating an historical FRN yield time series for individual securities. The analysis shown in Figure 4 is intended to demonstrate the impact of including the identified FRNs in the ERA's benchmark bond sample.

6.3 Conclusion

We consider that of the four weighting methods considered by the ERA, the most relevant method of weighting is the weighting according to term to maturity. This because longer dated issuance are more relevant for determining the debt risk premium for long asset life infrastructure businesses. However, we consider that the ERA should clarify or publish the underlying data used to derive the results under this weighting method as we were unable to replicate the ERA's calculations.

We also suggest that consideration be given to the development of a weighting mechanism which takes into account the industry of the issuer given that sector differences do impact on bond yields. One way to achieve this would be to group issuers into two industry categories –

"Infrastructure & Utilities" and "Other" and assign a higher weighting to the former. The decision on what would be an appropriate weighting should be subject to industry consultation.

7 Question 5

Are there any relevant sources of information that the Authority has not considered in this discussion paper with regard to estimating the debt risk premium?

7.1 Basis for the ERA's proposals

The ERA has considered the following sources in its discussion paper regarding the methodology to estimate the DRP:

- The National Gas Rules ("Gas Rules"), which guide the ERA's decisions on the rate of return, of which the DRP is a component. The Gas Rules do not specify a method for estimating the DRP and allows the ERA to exercise discretion in setting the DRP, provided it is set in accordance with the principles in Rule 87.
- The Australian Competition Tribunal's decision on the ActewAGL appeal in September 2010.
- The AER's Final Decision on the Victorian electricity distribution network service providers in October 2010.
- The Independent Pricing and Regulatory Tribunal of New South Wales' Discussion Paper on "Developing the approach to estimating the debt margin" in November 2010.

The ERA has also relied on information and data from Bloomberg to support its analysis.

7.2 Our response

We make the following comments in relation to the ERA's proposals broadly:

- There are alternative approaches and information sources that the ERA could consider when assessing the DRP, such as reference to recent issuances in the domestic bank debt market, offshore issuance and consultation with industry participants. However, we recognise that the methodology that would be applied to obtain and analyse such data may not be sufficiently mechanical or easily replicable by stakeholders. This is partly due to the fact that debt pricing is not a simple mechanical task and in practice, there are a range of complex factors that need to be taken into account.
- Although the ERA has expressed reservations against the Bloomberg data extrapolation approach which the AER is currently applying, it is also important for the ERA to consider the extent to which the DRP estimation methodology that it ultimately adopts, produces results which deviate from that which would be obtained using the AER's methodology. In principle, there should not be significant or artificial differences between the rates of return allowed on regulated infrastructure in Western Australia versus those in eastern Australia, other than those differences that are attributable to differences in risk (perceived and actual). Investment in regulated infrastructure in Western Australia would be adversely impacted in the event that businesses such as Western Power are allowed a lower DRP in their WACC as compared with businesses that are regulated by the AER, simply because the ERA adopts

a different DRP estimation approach. These differences may also be contrary to the requirements in the Gas Rules, which do not contemplate different markets for funds in different parts of Australia.

- The ERA has argued that the principle of market relevance should carry more weight than consistency with other WACC parameters in estimating the DRP. On this basis, the ERA has advocated moving away from the 10 year borrowing term assumption for estimating the DRP. As we have alluded to elsewhere in this report, the principle of market relevance would also require the ERA to observe that in practice, infrastructure businesses adopt long term financing practices which are consistent with the duration of the assets which underpin their businesses. The benchmark debt financing assumption in the cost of capital should not be inconsistent with actual market practice. The ERA should also note that in the AER's first review of the cost of capital parameters for electricity transmission and distribution businesses regulated under the National Electricity Rules (which was completed in May 2009), the AER comprehensively analysed the question of moving to a 5 year debt financing assumption and found that such a maturity assumption would not be consistent with the actual debt financing practices of regulated electricity businesses[15]. On average, the AER concluded that adopting a 5 year term would be expected to under-compensate the benchmark business. It is not evident from the ERA's discussion paper that these considerations have been taken into account in the ERA's proposals.

7.3 Conclusion

We appreciate that there are data challenges for the ERA to overcome in deciding on an appropriate methodology for estimating the DRP, and acknowledge the concerns that the ERA has raised in relation to Bloomberg fair value curves and the extrapolation approach currently adopted by the AER. However, we would urge the ERA not to overlook the "bigger picture", and to ensure that the WACC outcomes which are ultimately derived for the businesses that it regulates do not reflect artificial differences to those businesses that are regulated by the AER. In principle, there should not be artificial differences between the rates of return allowed on regulated infrastructure in Western Australia versus those in eastern Australia, other than those differences that are attributable to differences in risk (perceived and actual). Any differences which result in the ERA adopting a lower DRP would adversely impact on investment in regulated infrastructure in Western Australia.

[15] AER Final Decision, Electricity transmission and distribution network service providers – Review of the weighted average cost of capital parameters, May 2009, p. 168.