

United Energy Distribution Pty Limited
ABN 70 064 651 029

Multinet Gas Distribution Partnership
ABN 53 634 214 009



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United Energy and Multinet Gas
6 Nexus Court
Mulgrave VIC3170
PO Box 449
Mt Waverley VIC 3149
T 03 8846 9900
F 03 8846 9999
www.uemg.com.au

Our Reference: FG.05.06.01

Dr Guy Debelle
Assistant Governor (Financial Markets)
Reserve Bank of Australia
GPO Box 3947
SYDNEY NSW 2001

BY EMAIL TO: Radevskiv@rba.gov.au

Dear Mr Debelle,

**RBA AGGREGATE MEASURES OF AUSTRALIAN CORPORATE BOND SPREADS AND YIELDS
(NON-FINANCIAL CORPORATE BONDS)**

On Thursday 23rd October, I met with Ivailo Arsov and his colleagues, Leon Berkelmens and John Boulter, from the Domestic Markets Department of the Reserve Bank of Australia. I would like to thank you for facilitating a meeting between RBA staff and the representatives of United Energy and Multinet Gas. Over the remainder of this letter, I would like to draw upon the outcomes of the aforementioned meeting and to put further queries to the RBA. On occasion, I will refer to my earlier correspondence which was sent to you on 19th September, 2014.

Context of the enquiries

As has been mentioned previously, the Australian Energy Regulator (AER) is considering whether to make use of the RBA indicator series for A rated or BBB rated corporate debt. If the AER were to draw upon the figures published by the RBA, then it would incorporate them into calculations for the regulatory return on debt. The AER commenced a round of consultations, on the use of third party proxy variables to determine the cost of debt, in April this year¹.

The relevant rules provide that the debt allowance may be set as a single figure for the whole five-year regulatory period, which would generally mean that a spot cost of debt is evaluated over a short time interval before the commencement of the regulatory period². The single figure for the cost of debt is the return required by investors “at the time or shortly before” the making of a distribution determination.

¹ AER, Return on debt: Choice of third party data service provider. Issues Paper, April 2014.

² National Electricity Rules, numbered 6.5.2(i) and 6.5.2(j)(1).

Alternatively, the regulatory return on debt can be calculated as a trailing average, portfolio return on debt which is updated annually³. The rules further permit the application of a “hybrid” approach⁴.

Under a trailing average method, the allowance can be structured to represent the average return that investors would expect to earn from a benchmark efficient entity, in circumstances in which the debt has been raised over an historical period prior to the commencement of each relevant year⁵. There would also be an annual updating process under the trailing average⁶, and the particular indicator series would need to be available for the duration of the regulatory period.

The Australian Competition Tribunal, (ACT), is the appeal body that applies the current rules, and which has also applied previous versions of the rules. The ACT has formerly decided that a representative set of bonds, sufficient to determine a “fair value” curve, should be assembled and then applied to the task of selecting between published fair value curves⁷. The exclusion of certain classes of relevant corporate bonds from the sample that is used in the assessment would raise the significant risk that the pool of remaining data is insufficient or unrepresentative. The omission of longer tenor bonds is inadvisable because the sample of long tenor bonds in the broad, BBB ratings band is already limited. Furthermore, data should not be double-weighted or given excessive weight when setting the return on debt allowance. The Tribunal has expressed a preference for fair value curves which are upward sloping, over the relevant range of term to maturity, because of investors’ requirement for a higher return on funds that are committed over a longer period, and because of the increased risk of a bond provider defaulting at some point over the life of a longer tenor bond⁸. The Tribunal has recognised that the market circumstances which might give rise to an inverted yield curve are comparatively limited. The term structure of yields is usually, though not always, upward sloping. If the shape of a fair value curve appears to be inconsistent with finance theory and market evidence, perhaps because of unexplained kinks or “humps”, then regulators and businesses should prefer alternative measures of the rate of return on debt.

In its consultation with industry, the AER has expressed a preference for the sourcing, from third party data service providers, of synthetic series which provide a proxy for the rate of return on debt⁹. The AER has provided reasons as follows:

- Third party data sources are provided for use by market practitioners and have been developed independently of the regulatory process.

³ National Electricity Rules, numbered 6.5.2(j)(2).

⁴ National Electricity Rules, numbered 6.5.2(j)(3).

⁵ National Electricity Rules, numbered 6.5.2(j)(2).

⁶ National Electricity Rules, numbered 6.5.2(l).

⁷ Application by ActewAGL Distribution [2010] ACompT 4, paragraph 77.

⁸ Application by ActewAGL Distribution [2010] ACompT 4, paragraph 18.

⁹ AER, Return on debt: Choice of third party data service provider. Issues Paper, April 2014.

- Third party data sources are constructed by finance experts with access to a comprehensive financial database. The compilation of the series has demanded that judgements be made in terms of debt selection and any necessary adjustment to yields.
- The use of an independent third party narrows the scope for debate on issues such as debt instrument selection, curve fitting and the use of averaging methods to derive the estimate of the return on debt.
- A third party data source can potentially be applied more readily when implementing an automatic update of the trailing average rate of return on debt, pursuant to the National Electricity Rules.

The AER has also set out the criteria that it will apply when assessing the relative merits of alternative third party data series. The criteria can be summarised as follows:

- The data, from the particular source, should be used in a way which is consistent with the original purpose for which the data was compiled. Regard should also be had for the limitations of that purpose.
- The third party data series should be supported by “robust, transparent and replicable analysis that is derived from available, credible datasets”.
- The models that generate the values should avoid “arbitrary filtering or adjustment of data which does not have a sound rationale”.
- The third party data source should also be “sufficiently flexible as to allow changing market conditions and new information to be reflected in regulatory outcomes, as appropriate”.

In the decisions about regulatory appeals which have been made to-date, the Australian Competition Tribunal has upheld the criterion of transparency when assessing different “fair value” curves. To assist the Tribunal in its deliberations on alternative, cost of debt series, evidence needs to be submitted on how the particular variables or indices are compiled. The evidence should cover the extent to which information on actual trades is used, as well as the reliance on bond data which may reflect quoted prices. An explanation of the various calculation steps will also assist the Tribunal in assessing whether or not a certain series should be used.

United Energy and Multinet Gas, (UE and MG), are seeking to better understand the methods that the RBA has employed in order to produce its measures of corporate bond spreads. The firm is also seeking to more fully appreciate the policy or regulatory framework which has guided the Bank in its decision to produce the particular series published in Table F3. In view of the aforementioned considerations about transparency, the ability to replicate the series, and the guiding framework, UE and MG would like to assess whether the measures of corporate bond spreads are suitable for use by the AER.

UE and MG further believe that the expert report which was submitted with the previous letter will assist the RBA in the task of refining the corporate bond variables that are being produced¹⁰. The rationale for

¹⁰ See United Energy and Multinet Gas, letter to Dr Guy Debelle, Reserve Bank of Australia 19th September 2014.

the previous exercise was to contribute to improvements so that the RBA's data series is capable of providing the best possible measure of the prevailing return on debt.

Enquiries concerning the framework and the basis for the RBA series

The consultation document prepared by the AER has raised a question as to what might be the purpose for which each third party data series under consideration has been produced. A corollary of this matter, then, is whether the purpose is compatible with the intended application of the corporate bond spread variables.

Would the RBA therefore please identify the purpose for which the measures of corporate bond spreads in Table F3 are being produced?

The purpose, or the objective, which underlies the preparation of the RBA's corporate bond spread variables is important to consider for three other reasons.

Firstly, the AER's consultation paper proceeds on the basis that the cost of debt series under consideration have been established independently from the regulatory process which applies to electricity and gas distribution (and transmission) businesses. The AER has signalled that it intends to have regard to the practice of other Australian access regulators when undertaking its energy regulatory functions¹¹. UE and MG note that the RBA's Payments Systems Board is the relevant access regulator for Visa, Mastercard, the ATM network and the EFTPOS network, and that the PSB also regulates intra-participant prices in those systems.

Would you please confirm whether the purpose (or one of the purposes) of the series is to provide data to inform PSB decisions on access pricing. Would you also please indicate whether, and if so how, independence is maintained between the PSB as an access regulator, and the RBA staff who are responsible for preparing the corporate bond spread variables.

Secondly, as was explained in the first part of the letter, transparency is important. UE and MG believe that the RBA has shown a reasonable degree of transparency to-date¹². In terms of what has been done to produce the numbers, the available documentation from the RBA surpasses that put out by other data providers. Note that the bond indices or fair value curves published by other financial market information services have been used in energy regulatory reviews thus far. Although the Bulletin article prepared by the RBA provided helpful insights, a requirement for additional information and background calculations may arise during a regulatory review. The supplementary information could be sought by the AER, or a

The accompanying submission was: ESQUANT (2014), 'A Review of Measures of Australian Corporate Credit Spreads published by the Reserve Bank of Australia; SUBMISSION TO THE ISSUES PAPER (RETURN ON DEBT: CHOICE OF THIRD PARTY DATA SERVICE PROVIDER) RELEASED BY THE AUSTRALIAN ENERGY REGULATOR (APRIL 2014); a report prepared for United Energy and Multinet Gas'; ESQUANT Statistical Consulting.

¹¹ AER, Better Regulation, Explanatory Statement, Rate of Return Guideline, Australian Energy Regulator, December 2013.

¹² See: Arsov I, M Brooks and M Kosev (2013), 'New Measures of Australian Corporate Credit Spreads', Reserve Bank of Australia Bulletin, December, pp 15–26.

regulated business, or the Australian Competition Tribunal. The exact form of the information cannot readily be ascertained in advance, however, the information would probably be used to assess the fitness for purpose of the RBA's corporate bond spreads.

During the meeting with the RBA on 23rd October, UE and MG, and its representatives, were able to improve their understanding of some of the methodological choices that have been made by the RBA, and which have not been reported in the Bulletin article. A case in point concerns the decision made by the RBA to exclude data pertaining to bonds issued by financial institutions. Investment grade bonds from financial institutions have reportedly not been brought into the calculations because of the unique circumstances surrounding financial institutions during the most intense period of the global financial crisis (GFC).

The *Freedom of Information Act* and standard court based disclosure instruments provide important general mechanisms through which transparency is ordinarily achieved. We note, however, that the RBA is bound by secrecy provisions and has a limited exception to FOI and the usual court based disclosure obligations.

Therefore, can you please confirm that the corporate bond spread variables in Table F3 are not prepared by the RBA in connection with (or to support) its banking operations (including individual open market operations)? Can you please confirm that none of the material used in compiling the series, nor the factors leading to decisions about the series, are “protected information” or “protected documents” within the meaning of the Reserve Bank Act?

Thirdly, while the expectation that a data series will always be available might be impractical, regulated businesses do need to examine the likelihood that a third party data series will continue to be available for at least the standard, five year regulatory period. A decision about the prospects for the particular indicator series has to be made before the variable can be nominated for use in a trailing average calculation. Indeed, there would be considerable inconvenience if the RBA (or some other data provider) were to unilaterally suspend the publication of its indicator variables during the time interval of a 10-year trailing average calculation. A 10-year trailing average would straddle two five year regulatory control periods.

UE and MG are aware that the RBA previously produced a different version of its indicator series for corporate bonds¹³. The previous rendition of Table F3 did not present results for corporate bonds which were completely stratified by tenor. In November 2013, the RBA commenced the publication of the current version of corporate bond spreads and yields.

Please provide details as to why the RBA deemed it necessary to discontinue the previous version of Table F3. Why did the RBA believe that a new variable which recorded corporate bond spreads and yields would be relevant? Are there any reasons to gain comfort or to experience

¹³ The previous Table F3 was labelled “Capital Market Yields and Spreads – Non-Government Instruments”. The Table presented the results for corporate bonds with terms to maturity in the range of one to five years. The observations for bonds in the one to five year tenor range were pooled. The Table showed the output for bonds in the AA, A, and BBB ratings classes. Yields were reported, as were spreads over swap rates, and spreads to Commonwealth Government Securities (CGS). The spreads on five-year credit default swaps were also recorded.

concern when contemplating the future of the current measures of corporate bond spreads and yields? Has the RBA made a commitment to maintain the publication of Table F3 over a five year or ten-year period?

Queries about the methods that have been applied to calculate the output series for corporate bond spreads and yields

UE and MG are concerned about the exclusion, or filtering out of the bonds for financial institutions from the corporate bond series. The factors to take into account when assessing whether or not Table F3 is relevant, for regulatory purposes, can be summarised as follows:

- The series to be used by the AER when establishing an allowance for the return on debt should include a sufficient and representative pool of corporate bonds.
- The published figures should represent a contemporaneous measure (also described as the 'prevailing' measure) of the required return on debt; and
- The series should be sufficiently flexible to enable adjustment to market changes.

UE and MG understand, from discussions with the RBA, that financial institutions have been excluded from the calculations because of observed differences in the responses of finance company bonds during the GFC. However, the market circumstances which gave rise to the deviations in price and yield responses, as between finance and non-finance company bonds, are no longer in evidence.

Another cause for concern is that floating rate notes have not been included in the data samples. The Australian Competition Tribunal has previously reported that "floating rate bonds ought to be taken into account and treated equivalently to fixed rate bonds"¹⁴.

UE and MG asked whether the RBA would be amending its approach so as to factor in both finance company bonds and floating rate notes. We understood that the RBA was reluctant to make amendments to the corporate bond series because to do so would undermine inter-temporal consistency, even if a broader sample of bonds could be appropriately included in current market circumstances.

Can you please confirm that the RBA is not minded to amend the service in light of the change in market conditions from the time that a decision was made to exclude the bonds that were exempted from further consideration?

As was discussed during the meeting on 23rd October, a key limitation of the RBA's numerical series is that it accords a high weight to a comparatively small number of data points that are close to the target tenor of 10 years. Accordingly, the published results from the RBA are highly responsive to the traded or quoted prices of a comparatively small number of bonds.

Would you please confirm that when estimating the cost of debt at 10 years, a high weight is given to bonds which are closest to the 10-year target tenor. If there are only a small number of

¹⁴ Application by ActewAGL Distribution [2010] ACompT 4, paragraph 58.

observations, then one or two bonds may be ranked disproportionately.

The report from ESQUANT Statistical Consulting discusses the bias that may occur in boundary regions, because of the asymmetric effect of the (Gaussian) kernel. A high proportion of the bonds that have remaining terms to maturity in the vicinity of 10 years have tenors which are marginally less than 10 years¹⁵. There is consequently a downward bias in the estimate of the cost of debt that is produced (for a 10-year target tenor). The extent of the bias at a particular point in time will partly depend upon market conditions. There could be a significant divergence from what would be regarded as a genuinely representative market figure.

The bias (to first order) is given by the slope of the spread curve at the target tenor, multiplied by the difference between the effective tenor and the target tenor. If you acknowledge the phenomenon of bias when estimating the cost of debt using a Gaussian kernel method (local constant smoothing), then do you propose to amend the way in which the values are generated, either by using one of the methods suggested by ESQUANT, or via some other approach?

To assist UE and MG and other businesses which are currently preparing their submissions to the AER, I would be most grateful if you could please provide answers to our queries by 22nd December 2014.

Yours sincerely,

Jeremy Rothfield
Network Regulation and Compliance Manager

¹⁵ ESQUANT (2014), 'A Review of Measures of Australian Corporate Credit Spreads published by the Reserve Bank of Australia; SUBMISSION TO THE ISSUES PAPER (RETURN ON DEBT: CHOICE OF THIRD PARTY DATA SERVICE PROVIDER) RELEASED BY THE AUSTRALIAN ENERGY REGULATOR (APRIL 2014); a report prepared for United Energy and Multinet Gas'; ESQUANT Statistical Consulting, section 3.1.2.