ESTIMATING THE DEBT MARGIN FOR ACTEWAGL

A Report for ActewAGL

Prepared by NERA

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1 INTRODUCTION "SUMMARY"

The ICRC's draft electricity decision accepted the debt margin proposed by ActewAGL as being consistent with the range of recent relevant decisions made by other Australian regulators.

ActewAGL's proposed debt margin was composed of two elements. The first was an estimate by NECG of the cost of debt for an appropriately rated benchmark distribution network service provider (DNSP). The second component was an explicit allowance for debt raising costs.

It is our understanding that the ICRC is intending to review the basis of the debt margin. Our commentary on the two elements of the debt margin follows.

The long-run average of CBA Spectrum debt premium estimates

If CBA Spectrum estimates of the debt margin are to be adopted we believe it would be appropriate to estimate this as the average CBA Spectrum debt margin over the previous regulatory period for BBB+ bonds with 10 years to maturity. This is the approach adopted by Essential Services Commission of South Australia (ESCOSA).

This approach is recommended as CBA Spectrum estimates of long dated BBB+ bonds are not based on actual observations but instead are statistically inferred from observations of higher credit rating and shorter maturity bonds. For example, there are only 3 BBB+ bonds in CBA Spectrum's database. This means that CBA Spectrum estimates of BBB+ long dated debt margins are subject to large estimation errors. In late 1998, the debt margin on BBB+ 10-year maturity bonds as estimated by CBA Spectrum rose from around 110bp to around 280bp and fell back to around 140bp in a matter of months. Over the same period the estimated margin on BBB+ 1-year bonds hardly changed. Almost certainly this sharp increase in estimated BBB+ 10-year bonds was due a statistical quirk in the estimation procedure due to the lack of relevant observations of these bonds rather than being a true reflection of the change in the cost of borrowing.

There is no reason to believe that these estimation errors will not 'cancel out' over time and, consequently, a long-term average will give a more accurate reflection of actual debt margin costs. Adopting a long-term average will ensure consumers and businesses are not subject to the unnecessary risk of significant fluctuations in the debt margin which may rise/fall by 200 odd basis points.

Such an approach would set the debt margin at around 150bp excluding transaction costs.

The compensation for debt raising costs

In light of the recent Australian Competition Tribunal's decision on GasNet to double the allowance for debt issuance costs to 25bp we believe that consideration should be given to increasing the allowance of 12.5bp. The acceptance of the higher value by the ACCC suggests that previous decisions understated the true costs of debt issuance. The Australian Competition Tribunal decision and ACCC acceptance of that decision represents a likely point of departure for future regulatory decisions.

In the remainder of this report we analyse in more detail:

- the use of CBA Spectrum data for estimating the debt margin; and
- the cost of debt issuance.

2 THE DEBT MARGIN

2.1 The Cost of Debt

It is standard regulatory practice to include a debt margin in the calculation of the WACC equal to the debt margin that a regulated business would have to pay given the other assumptions in the CAPM (ie, 60% gearing etc). The margin is equal to the margin necessary to compensate debt holders for the additional risks compared with the alternative of investing in Commonwealth bonds. In order to implement this precedent, the ICRC must estimate the appropriate debt margin either by reference to other regulatory decisions or by reference to interpretations of (limited) available market data.

In the following sections we:

- analyse the ICRC draft decision on the cost of debt;
- discuss the use of CBA Spectrum data; and
- propose a methodology for estimating the cost of debt for companies with low credit ratings.

2.1.1 ICRC's analysis

The ICRC in its draft electricity decision accepted ActewAGL's analysis on the appropriate margin above the risk free rate required by the benchmark firm. ActewAGL's July 2003 submission on the debt margin is based on a report by NECG that states that:[1]

> "***data suggests adopting a credit rating of BBB+ for an electricity business with a benchmark gearing ratio of 50 per cent would not be inconsistent with market observations."***

Since that submission the use of a BBB+ credit rating has been adopted by regulators in DNSP decisions in both NSW and South Australia. Both IPART and ESCOSA have then used this benchmark credit rating to estimate the debt margin above the risk free rate.

IPART and ESCOSA both appear to rely on CBA Spectrum to estimate the debt margin. However, IPART has proposed to use a 20-day average of CBA Spectrum data. ESCOSA, on the other hand, proposes to estimate the margin based on the 5-year average of the margin.

[1] ActewAGL, Submission to the ICRC, August 2003, p 53.

2.1.2 Use of CBA Spectrum data

There are very few observations, in Australia, of long dated corporate debt with low credit ratings such as BBB or BBB+. Less than 3% of all corporate debt issued in Australia has a credit rating lower than 'A'.[2] This is in turn a result of the fact that most corporations in Australia have gearing levels considerably below the assumed 60% gearing used by Australian regulators.

One source of market data that Australian regulators, such as the ACCC, IPART, and ESCOSA, have recently relied on is CBA Spectrum data. On the 25th of February 2004, CBA Spectrum was reporting estimated debt margins of 101 bp for 10-year maturity BBB+ bonds. However, CBA Spectrum's database only includes three BBB+ bonds. Moreover, two out of these three bonds have maturity dates of less than 3 years with only one having a maturity date of 9 years. The reported margins on these bonds as at 25 February 2004 and their year of maturity is summarised in the below table.

CBA Spectrum's database of BBB+ bonds

	Maturity	Spread relative to equivalent maturity government bond	"CBA Spectrum" estimate of the 'fair' debt margin for given maturity
BBB+ bonds			
BritAmerTob	2006	1.11%	0.82%
Qantas	2007	1.01%	0.87%
Snowy Hydro	2013	1.37%	1.00%

This table highlights a counterintuitive result associated with CBA Spectrum's estimates of the 'average' or 'fair' debt margin for given maturity. In all cases the estimated 'fair' debt margin on BBB+ bonds was below the actually observed debt margin of each of the bonds in its database. That is, for BBB+ bonds CBA Spectrum's estimated 'fair' debt margin is consistently below the actually observed debt margin on similarly rated bonds in its database. For BBB+ bonds CBA Spectrum is on average 27 basis points below the actual observations of debt margins on BBB+ rated debt. For the only observation of long dated debt (Snowy Hydro), CBA Spectrum is 37 basis points below the equivalent actual observation.

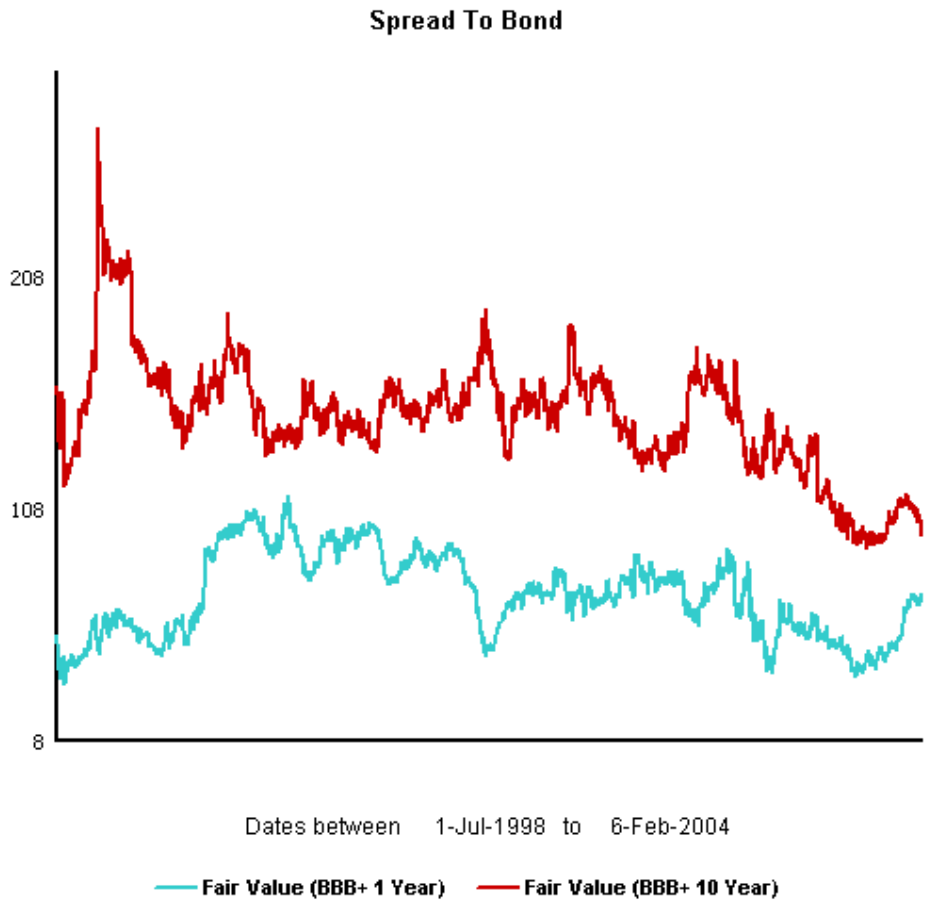
It is important to understand why this is the case. We note that IPART proposes a 20-day average of CBA Spectrum data as this would be consistent with its estimation period for the risk free rate. However, further analysis of CBA Spectrum outputs highlights that their 'data' for 10-year BBB+ bond margins are highly variable and are actually estimates rather than market observations. This realisation has significant implications for the use of short-term (20 day) averages.

[2] Source: Australian Financial Review 2 February 2004.

The first point to note in explaining this counterintuitive result is that CBA Spectrum provides an estimate of the 'fair' debt margin for each credit rating/maturity combination rather than reporting actual market data. For example, CBA Spectrum reports 'fair' debt margins for BBB+ rated bonds with a maturity of 1 to 10 years despite the fact that it only has observations of three actual BBB+ rated bonds in its database. This explains why CBA Spectrum for each credit rating/maturity combination need not always match the actual observations that the CBA Spectrum estimate is based on.

However, it does not explain why CBA Spectrum provides estimates of debt margins for BBB+ credit ratings that are less than every one of the observations of actual debt margins on BBB+ rated bonds. The explanation for this lies in the fact that CBA Spectrum simultaneously estimates the 'fair' relationship between debt margins and maturity for all 10 investment credit ratings from Government to BBB. In doing so, CBA Spectrum constrains these estimated curves to follow similar shapes to one another and never to cross (eg, 'fair' debt margin on a BBB+ bond must always be below that on a BBB bond). This effectively means that the estimates of 'fair' debt margins for BBB+ bonds, for which there are only three observations and for which there are even fewer long dated observations, are largely driven by observations for higher rated bonds. Effectively, CBA spectrum estimates of 'fair' debt margins for BBB+ rated bonds are 'the tail on the dog' where the 'dog' is the large body of observed margins on higher rated bonds.

Another example of how the BBB+ 'tail' can be 'wagged' by empirical estimation techniques is shown in the following graphic. It shows the relationship between margins on BBB+ rated bonds of 1 versus 10 years maturity over the last 5 years as estimated by CBA Spectrum.



This clearly shows that in late 1998 the debt margin on BBB+ ten-year maturity bonds as estimated by CBA Spectrum rose from around 110bp to around 280bp and fell back to around 140bp in a matter of months. Over the same period the estimated margin on BBB+ one-year bonds hardly changed. Almost certainly this sharp increase in estimated margins on BBB+ 10-year bonds was due a statistical quirk in the estimation procedure due to the lack of relevant observations of these bonds, rather than being a true reflection of the change in the cost of borrowing.

There is no reason to believe that these estimation errors will not 'cancel out' over time and, consequently, a long-term average will likely give a more accurate reflection of actual debt margin costs. As demonstrated in the above table, the current estimation techniques have the effect of causing the estimated 'fair' debt margin to significantly underestimate actual observations for BBB+ rated bonds. However, this need not always be the case and it is more than possible that in earlier periods CBA Spectrum estimates of 'fair' debt margins on BBB+ rated bonds overestimated actual observations on those bonds. While CBA Spectrum has been unwilling to supply us with a detailed description of their estimation procedures we have no reason to believe that it results in a permanent downward bias in estimated debt margins for BBB+ rated bonds over time.

Should a short-term (20 day) average of CBA Spectrum estimates be used this will then imply a commitment to adopting this methodology in the future. Reference to the previous graph shows that this could result in a future debt margin in excess of 300 bp.

It should also be noted that the above discussion is not intended as a criticism of the statistical procedures used by CBA Spectrum. These are perfectly valid for the purpose to which CBA Spectrum and its clients intend to use these estimates – ie, as indicative estimates of likely yields on newly issued debt of a similar maturity. Given that very few Australian corporations actually issue BBB+ and below debt the counterintuitive nature of CBA Spectrum's estimates of 'fair' value for these credit ratings is unlikely to be of great concern to either CBA Spectrum or its clients. Moreover, if a corporation was actually to attempt to estimate the debt margin on its own BBB+ and below debt issue it would undoubtedly have recourse to more firm specific advice from finance professionals.

2.1.3 Proposed approach

It appears to us that, in the light of the above analysis, extreme caution should be exercised in simply adopting CBA Spectrum estimates of 'fair' debt margins for BBB+ rated bonds at a given point in time. To do so would run the risk of significantly under or over estimating the true cost of debt to a 60% geared regulated business depending on how the CBA Spectrum dog (observations on high rated debt) was wagging the CBA Spectrum tail (estimated fair value for BBB+ debt).

We propose the use of the average longer-term time series of CBA Spectrum estimates of 'fair' debt margins for BBB+ debt. This has been the approach adopted by ESCOSA in its 'preliminary views' document on how it will treat the cost of capital.[3] In that document ESCOSA signal its intention to adopt a debt margin based on the average debt margin for BBB+ rated debt with ten years to maturity as estimated by CBA Spectrum over the last five years (ie, over the last regulatory period). Using this approach ESCOSA has arrived at an estimate of the appropriate debt margin of 1.50%.

Potentially an alternative approach would be to eschew CBA Spectrum estimates of 'fair' debt margins altogether and to instead rely on the actual observations of BBB+ rated bonds with maturity as close to 10 years as is possible. The only BBB+ observation in CBA Spectrum's database with maturity greater than 3 years is that for Snowy Hydro which has a 9 year maturity and a debt margin of 1.37%. It might be possible to supplement this with long dated maturity observations not included in CBA Spectrum's database. For example, of all bonds with ratings of BBB+ or lower reported by DataStream the longest dated maturity is that for a Southcorp Financial 2010 maturity bond. The credit rating attached to this bond is BBB+ and its debt margin was 3.74%.

[3] ESCOSA, Electricity Distribution Price Review: Return on Assets, Preliminary Views, January 2004, p 65.

However, this observation of Southcorp's extremely large debt margin highlights the problems with simply adopting an estimate based on a low number of observations. Almost certainly a debt margin of 3.74% is an outlier and most other corporations issuing BBB+ debt could expect to pay significantly lower debt margins.

Adopt a long run average of CBA Spectrum debt premium estimates

In conclusion, the regulatory debt margin should be set equal to a long-term average estimated debt margin for BBB+ bonds with 10 year maturity where that estimation is performed by a credible firm (such as is the case with CBA Spectrum). We believe there would be advantages in matching the period over which this average is calculated to the previous regulatory period as this will ensure that, in the long run, the average debt margin received by regulated businesses is equal to the average debt margin actually estimated for the relevant class of bonds. This approach has a regulatory precedent in the form of the proposed approach by ESCOSA.

2.2 Debt Raising Costs

Debt raising costs arise as a legitimate business expense as a regulated business would be expected to incur significant costs in issuing debt to the level assumed in the WACC. The ICRC has accepted that these costs are a legitimate business expense. The standard practice is to include this cost in the overall debt margin as the cost relates to the level of debt assumed in the WACC.

The draft decision relies on the recent decisions of the ESC and ACCC that have set an allowance of between 5bp and 12.5bp. Since ActewAGL's August 2003 submission, the Australian Competition Tribunal has ordered the ACCC to increase debt raising costs from 12.5bp to 25bp in GasNet's Access Arrangement. This increase in debt raising costs has been accepted by the ACCC.[4]

The decision of the Australian Competition Tribunal supports ActewAGL's submission that that Australian regulators have understated the appropriate allowance for the cost of debt as US data suggests the allowance should be in the order of 50bp.

We believe that if the debt margin is being reconsidered appropriate weight should be given to the Australian Competition Tribunal decision to provide an allowance of 25bp for the cost of debt issuance.

Furthermore, it has recently been suggested that the cost of debt issuance should be removed from the WACC and placed in allowable operating expenditure. We believe that

[4] ACCC, Media release, 23 December 2003.

there is no theoretical reason to oppose this change and in fact, there are some arguments to support such a move.

However, the move to compensate the cost of issuing debt in allowable operating expenditure should continue to reflect the costs of the benchmark service provider, rather than reflecting the specific costs of ActewAGL.

The ACCC to our knowledge is the only Australian regulator to propose moving these costs to operating expenditure. In its discussion paper on the regulatory principles the ACCC states:[5]

> ***"Ultimately a benchmark debt raising cost will still be recoverable by the TNSP whether it is provided in the debt margin or in the opex section. That is, no adverse effect would be borne by the TNSP and, hence, it would be revenue neutral."***

Consider increasing the compensation for debt raising costs

In light of the recent GasNet decision to double the allowance for debt issuance costs consideration should be given to increasing the allowance above 12.5bp. The acceptance by the ACCC suggests that previous decisions understated the true costs of debt issuance. The Australian Competition Tribunal decision and ACCC acceptance of that decision represents a likely point of departure for future regulatory decisions.

[5] ACCC, Discussion Paper 2003: Review of the Draft Statement of Principles for the Regulation of Transmission Prices, p85.