

WESTERN AUSTRALIAN  
**TREASURY CORPORATION**

FINANCIAL SOLUTIONS FOR THE BENEFIT OF ALL WESTERN AUSTRALIANS

Dr Duc Vo  
Rate of Return Guidelines Review  
Economic Regulation Authority  
PO Box 8469  
Perth BC WA 6849  
[publicsubmissions@erawa.com.au](mailto:publicsubmissions@erawa.com.au)

Dear Dr Vo,

**RATES OF RETURN GUIDELINES REVIEW**

We submit for your consideration in the *Rates of Return Guidelines Review* the attached response from the Western Australian Treasury Corporation (WATC).

WATC is the central borrowing authority for the State of Western Australia. The debt it issues attracts the highest credit ratings from the various rating agencies. It benefits from the distribution services of its dealer panel made up of the major financial institutions operating in the Australian debt markets.

In making this submission, WATC's intention is to raise awareness around the practicalities of transacting in the Australian debt markets, in particular, the challenges that can arise in refinancing or swapping large tranches of debt within a short regulatory window. Furthermore, WATC proposes a more robust mechanism for calculating the cost of debt in accord with efficient financing principles.

While WATC has no stake in the outcomes of the ERA consultation and regulatory processes, the ERA may benefit from WATC's experience as a major issuer in these markets.

Yours sincerely,

JOHN COLLINS  
~~CHIEF~~ EXECUTIVE OFFICER  
15 March 2013

TONY DIXON  
CHIEF ADVISOR  
15 March 2013

*Response to the ERA's Consultation Paper (21 December 2012):*  
**"Guidelines for the Rate of Return for Gas Transmission and Distribution Networks"**

**Issue 48.** *What criteria could be used to select an approach/a model for deriving the debt risk premium?*

Three criteria have been identified by WATC.

**1. It must be *practicable* for the entity to match the benchmark DRP and Cost of Debt**

The DRP and Cost of Debt calculation should account for the size of the regulated business and the **volume of debt** that must be refinanced.

As a general rule, large bond issues in Australia by both the corporate and semi-government sectors are raised through syndicated issues. The total of all syndicated AUD bond raisings in 2012 has been reported to have been \$92.648b for 435 issues (although this includes some double and triple counting for multiple lead managers), or an average placement of \$212.984m.<sup>1</sup> However, the largest non-bank corporate raising during this period was for \$1b for BHP Billiton, a mining conglomerate with global operations.<sup>2</sup>

Late in the year, a WATC client enquired as to whether its entire debt portfolio of over \$5b could be raised over the ERA's 20-day pricing window. WATC was doubtful that \$5b could be raised in such a short period without incurring a significant premium. And making such an enquiry would have resulted in a significant increase in spreads for WATC's subsequent normal debt issues. To give an indication of what is achievable over the 20-day window, in May 2012, WATC successfully launched a syndicated tap issue of its existing 8% 15/07/2017 benchmark bond, raising \$1b, with ANZ Bank, UBS AG Australian Branch, and Westpac Banking Corporation acting as joint lead managers for the issue. This outcome was in accord with the corporate issuance threshold noted above.

The same liquidity constraints apply in the swap market as well. As large entities cannot refinance or restructure all their debt within a short time window, they cannot match the benchmark Cost of Debt and are therefore exposed to significant interest rate risk.

A further consideration is that the timing of the DRP pricing window, once initially agreed between the ERA and the relevant Entity, should have some further **flexibility**. Little consideration appears to have been given to how market disruptions during the regulatory reset window should be accommodated. Since the Global Financial Crisis, there have been brief periods where debt markets become very illiquid making large loan raisings very difficult and likely to attract a significant premium (additional cost). This has implications for both the quality of data used to establish the benchmark DRP, and the ability of entities to match this benchmark set during the regulatory reset window.

**2. The process must be *commensurate with efficient financing costs***

The current process incentivises entities to reprice all their debt at one time, creating significant repricing and liquidity risk. Even if this were practicable, efficient financing for large entities will not be achieved by requiring regulated entities to issue or swap billions of dollars of debt in a relatively short space of time at the end of each and every regulatory period. In addition, this refinancing strategy potentially gives significant power to the financial counterparties, which could expose regulated entities to opportunistic or unfavourable pricing.

<sup>1</sup> See <http://www.kanganews.com/league-tables/au-domestic1/all-aud-domestic-deals/2297-2012-all-aud-domestic-vanilla-incl-self-led-deals>.

<sup>2</sup> It should be noted that a significant amount of debt is issued outside of syndicated issues. In WATC's case, over 80% of its bond issuance is raised in the semi-government sector through non-syndicated issues, e.g., \$5.5b out of \$6.8b in 2011/12.



WATC notes that the Queensland Treasury Corporation (QTC) has expressed concern along the same lines in its recent submission to the Australian Energy Market Commission's review of rule change proposals put forward by the Australian Energy Regulator and the Energy Users' Rule Change Committee.<sup>3</sup> QTC (p.42) also disagree with statements on the depth of the interest rate swap market made in a Deloitte report to the AER<sup>4</sup> in late 2008. While acknowledging that the issuance threshold in the prevailing market was "anywhere between \$50-250 million", the following statement was also made by Deloitte (p.12):

*"In terms of hedging, the consensus view was that through the OTC and ETC markets there is still the capacity in the market to hedge large amounts of debt (up to \$11.1 billion) within a 5-40 day window."*

WATC strongly rejects this claim and estimates that even \$1b in swaps (\$50m/day over 20 days) in a market where no syndication occurs could significantly move market rates to the detriment of the entity, to the point where the objective of "efficient financing" would be impeded. Similarly, large single swap transactions (e.g., \$500m) would also be priced unfavourably, and would also expose the entity to a mismatch between its regulated return and its actual cost of debt.

Similarly, IPART has noted the following comments from the NSW Treasury Corporation in its December 2012 Discussion Paper:<sup>5,6</sup>

*"... New South Wales Treasury Corporation (TCorp) had raised the concern that this strategy may not be feasible for a large utility such as Sydney Water. The banks provided some support for this view. While some of the privately-owned utilities in Victoria may be able to access the swap market without shifting the market, some of the larger utilities or Treasury Corporations may shift swap market prices due to the size of their swap transaction."*

*"TCorp argues that in practice it would not be possible to refinance a utility's debt portfolio at each regulatory reset based on a 5-year term assumption and the use of a short average period (20-day average) adds significant re-pricing risks for both the utilities and consumers. It concludes that a prudent debt management strategy is consistent with 10-year term to maturity for both the risk free rate and the debt margin based on a 10-year trailing average."*

In practice, many organisations use some form of a "ladder" portfolio debt structure, i.e., a diversified maturity structure, and some research suggests that this may be optimal,<sup>7</sup> that is, results in "efficient financing costs". Assessing the efficient financing costs of a regulated entity would thus appear to require that the ERA determine a benchmark ladder structure for debt. It is noteworthy that a number of WATC's clients make use of ladder structures to reduce refinancing (repricing) risk.

Effectively forcing regulated businesses, via the rate of return methodology, away from an optimal ladder structure to entire debt rollovers at the end of regulatory periods imposes added costs. Debt structures can always be rearranged – e.g., existing floating rate debt can be swapped to fixed rate (depending on volume and market liquidity), long-term fixed rate bonds can be repurchased, etc. – but this will involve significant costs, resulting in far from "efficient financing costs".

Such an assessment would need to consider not only existing **legacy debt**, but also any additional **future debt** implied by the approved new capital expenditure during the regulatory period. That is,

<sup>3</sup> Queensland Treasury Corporation, *Response to the AEMC Directions Paper*, 16 April 2012.

<sup>4</sup> Deloitte Touche Tohmatsu 2008, *Refinancing, Debt Markets and Liquidity*, Report to the AER, 12 November. Available at <http://www.aer.gov.au/sites/default/files/Attachment%20B%20-%20Deloitte%20-%20Refinancing%2C%20debt%20markets%20and%20liquidity.pdf>.

<sup>5</sup> Independent Pricing and Regulatory Tribunal, "Review of method for determining the WACC: Dealing with uncertainty and changing market conditions," Other Industries – Discussion Paper, December 2012, pp.25-26.

<sup>6</sup> NSW Treasury Corporation, "Submission for Sydney Water Final Determination," 24 January 2012.

<sup>7</sup> See Judd, KL, Kubler, F and Schmedders, K, "Bond Ladders and Optimal Portfolios," *The Review of Financial Studies*, 24(12), 2011, 4123-4166.

both the DRP and the risk-free rate components of the Cost of Debt should be **periodically updated** throughout the regulatory period to reflect the pricing of new debt for approved capital expenditure. Such an approach would reflect the debt characteristics outlined in paragraph 189 (page 35) of the ERA's Consultation Paper; it would incentivise efficient financing through prudent debt management, it would lead to more stable regulatory prices, and it would reduce the likelihood of unintended favourable consequences for regulated entities when the WACC is reset in a high interest rate environment while the actual debt has been financed during a period of low interest rates.

Finally, this approach is consistent with the AEMC's NGR amendment to allow estimates of the DRP to incorporate trailing historical averages.

*3. The DRP estimation process must be **based on sound fixed income modelling principles***

Finally, the approach used to infer a DRP from observable market data – essentially an average credit spread – should be based on sound fixed income modelling principles. This issue is expanded further in the response to Issue 52.



**Issue 49.** Are there any issues associated with the bond-yield approach that have not been considered by the ERA?

### Input Data Quality

- The ERA has selected some bonds that have been issued just before the draft decision calculation period and hence do not have 20 days of history to establish a 20 day average, e.g., Western Power Draft Decision – ANZ EJ0310882 announced 15 February 2012.
- The ERA has selected some bonds that have options exercisable not long after the draft calculation date, some of which were exercised before the final decision was calculated, e.g., Western Power Draft Decision – ANZ EG230753 called 5 March 2012.
- The ERA uses Bloomberg as its principal data source for bond data. Bloomberg has a much smaller selection of bonds than alternative databases such as that available through UBS.
- The ERA in its draft and final decisions using the bond-yield approach has chosen some bonds which have very low turnover as demonstrated by the bonds “BVAL” score, e.g., Western Power – Powercorp Australia LLC BVAL Score 1/10 23-29 May 2012 & 13 June 2012. As such, input bond yields for certain observations in ERAs sample are themselves subject to a Bloomberg estimation methodology which reduces the transparency of the ERA methodology.
- The ERA has included floating rate notes (FRNs) in its bond samples. Although the maturities may be comparable, the nature of the interest rate exposure is quite different. FRNs have a three- or six-month short-term bill rate (BBSW) exposure, which is less than the ERA’s two-year cut-off maturity. Also, in times when the yield curve is steep, the spread between an FRN’s BBSW base rate and, for example, a ten-year fixed rate for the same entity will be appreciable. To use the FRN data correctly, one would need to value the overlaid fixed-to-floating swap to determine the yield of the underlying fixed bond.

### Selection Criteria

WATC acknowledges that the Australian corporate bond market is not deep and liquid, particularly for lower credit grades. Actual traded prices should ideally be used rather than stale or indicative prices, i.e., those with a high BVAL score. Some simple selection criteria can improve the quality of the sample used to estimate the DRP. The following bonds should be excluded from the sample (unless the options are priced):

- Bonds with issuance less than \$100m.
- Bonds with implicit government guarantees should be excluded, e.g., *SP AusNet 2021* bond.
- Bonds with rating-dependent step-up clauses, e.g., *SPI Electricity & Gas April 2021* bond.
- Bonds attached to PPP infrastructure financing which incorporate different risks beyond credit risk.
- Floating rate notes.
- Convertible bonds.
- Bonds issued in offshore markets.
- Generally, bonds with embedded options.

### Fitting of Data

- The bond-yield approach does not allow the ERA to specify the DRP as a function of maturity. A curve-fitting methodology disseminated by the ERA would remedy this problem. A proposed approach is discussed below in the response to Issue 52.



**Issue 52.** Would a method other than the (sic) ERA's bond yield approach better meet the new NGR RoR objective and requirements?

As noted by the ERA (paragraph 189, page 35), the AEMC has amended the NGR to allow estimates of the DRP to incorporate trailing historical averages. To achieve "efficient financing costs" that reduce liquidity risk and refinancing risk – particularly for larger entities – the academic literature supports the use of a bond ladder. Such a debt structure would remove the incentive to reprice large volumes of debt over a short time window, a feat which is impossible for very large debt volumes, using either physical issuance or derivatives.

### Fitting of Data

- The ERA has moved away from using the Bloomberg Fair Value curve for estimating the DRP due to a shortening of the extent of the lower-grade credit curves, and a perceived lack of transparency around the curve-fitting methodology.
- WATC supports the fitting of a *yield curve* for interpolating (vanilla) bond yield data in a given credit category. A yield curve model would allow the ERA to determine DRPs for any given target maturity that lies within the maturity range of the available bond data, something that the bond yield approach does not facilitate.
- There is a large literature on yield curve fitting, but WATC favours a three-stage process for calculating the DRP on each day (assuming that suitable selection criteria have been satisfied):
  1. Fitting the risk-free curve using the 'maximum smoothness' forward rate procedure<sup>8</sup>;
  2. Calculating the credit spreads for each observed bond with verifiable traded volume in the required credit category relative to the fitted risk-free curve;
  3. Fitting the credit spread data using the maximum smoothness forward rate procedure while maximising the goodness of fit.

This approach is consistent with the recommendation outlined by Professor Erik Schlögl in a report commissioned by IPART.<sup>9</sup>

- For the purposes of extrapolating yields beyond the longest observed maturity (for example, estimating a ten-year DRP when the longest observable bond maturity is five years), WATC supports the use of a regression model as described by Queensland Treasury Corporation.<sup>10</sup> Essentially their proposed approach is to perform a linear fit on past credit margin data (e.g., five-year vs ten-year BBB DRPs) and, assuming that the same relationship holds today, use it to estimate the ten-year DRP from the observable five-year DRP. This method is simple and transparent. It is also preferable to the regression approaches described by PWC,<sup>11</sup> where the regression models are functions of maturity only, that is, credit spreads are assumed to be independent of prevailing market conditions.

<sup>8</sup> See Adams, K & van Deventer, D 1994, "Fitting yield curves and forward rate curves with maximum smoothness," *The Journal of Fixed Income*, 4, pp. 52-62; corrected in van Deventer, D & Imai, K 1997, eds, *Financial Risk Management Analytics: A Term Structure Model Approach for Banking Insurance, and Investment Management*. Chicago: Irwin Professional Publishing; Jarrow, RA & van Deventer, D 2013, "A simple, transparent, and accurate mortgage valuation yield curve," *The Journal of Fixed Income*, Winter, 37-44.

<sup>9</sup> See Schlögl, E 2009, "Estimation of the interest rate term structure of corporate debt," Appendix A in IPART 2009, "Estimating the debt margin for the weighted average cost of capital. Analysis and Policy Development – Discussion Paper," May.

<sup>10</sup> Queensland Treasury Corporation, "Debt Risk Premium Analysis," Appendix C in *Powerlink Queensland 2013-2017 Revised Revenue Proposal*, January 2012.

<sup>11</sup> PricewaterhouseCoopers, "SP AusNet, Multinet Gas, Envestra, and APA Group: Estimating the benchmark debt risk premium," March 2012.

### **Legacy Debt and Future Debt**

- The DRP (and Cost of Debt) estimate should incorporate legacy debt to incentivise prudent interest rate risk management practices.
- The DRP (and Cost of Debt) estimate should be periodically updated to incorporate new debt issued by the firm during the regulatory period for approved capital expenditure. This would help to avoid a potential mismatch in a rising (or falling) interest rate environment.
- Correct treatment of legacy and future debt would also necessitate the use of historical and prevailing risk-free rates for the Cost of Debt calculation.