

Submission to the Draft Debt Omnibus Paper

SEPTEMBER 2021

Queensland Treasury Corporation (QTC) welcomes the opportunity to provide comments on the Australian Energy Regulator's (AER) Draft Debt Omnibus Paper. Our comments relate to how a weighted trailing average approach can be applied, and what we consider to be some misconceptions in the draft paper regarding the application of the NPV=0 condition to the trailing average approach.

1.1 Weighted trailing average

- The draft paper raises the question of whether a weighted trailing average should be used due to:
 - the difference between the prevailing cost of debt and simple trailing average cost of debt, and
 - relatively large expected increases in the benchmark debt balance for some service providers.
- If the AER decides to move to a weighted trailing average for some service providers, an example of how this can be done is shown in Table 1. In this example, the PTRM debt balance increases from \$100 to \$115 over a 1-year period. The weight that applies to the existing and new debt is 0.87 ($\$100 \div \115) and 0.13 ($\$15 \div \115) respectively. These weights are used to adjust the benchmark debt yields in the trailing average.

TABLE 1: HYPOTHETICAL WEIGHTED TRAILING AVERAGE EXAMPLE

Yield observation	Trailing average yields before new borrowing	Benchmark debt yield adjustments	Trailing average yields after new borrowing
t-9	8.0	$8.0 \times 0.87 + 3.0 \times 0.13$	7.4
t-8	7.5	$7.5 \times 0.87 + 3.0 \times 0.13$	6.9
t-7	6.5	$6.5 \times 0.87 + 3.0 \times 0.13$	6.0
t-6	6.0	$6.0 \times 0.87 + 3.0 \times 0.13$	5.6
t-5	5.0	$5.0 \times 0.87 + 3.0 \times 0.13$	4.7
t-4	4.5	$4.5 \times 0.87 + 3.0 \times 0.13$	4.3
t-3	5.0	$5.0 \times 0.87 + 3.0 \times 0.13$	4.7
t-2	3.5	$3.5 \times 0.87 + 3.0 \times 0.13$	3.4
t-1	4.0	$4.0 \times 0.87 + 3.0 \times 0.13$	3.9
Prevailing	3.0	$3.0 \times 0.87 + 3.0 \times 0.13$	3.0
Trailing average	5.3		5.0

- The approach in Table 1 is identical to applying an on-the-day transition to the annual increases in the PTRM debt balance, and combining the corresponding benchmark debt yields on new debt with benchmark debt yields that apply to the existing PTRM debt balance.
- The benefits of the approach in Table 1 include:
 - not producing a 'lumpy' implied debt maturity profile in the benchmark debt portfolio that underlies the trailing average cost of debt calculation, and
 - being consistent with the on-the-day transition that is still being applied to service providers as they transition to a full trailing average over a 10-year period.

1.1.1 Materiality

- The materiality of potential differences between a simple and weighted trailing average was considered in the draft decision on the 2013 Rate of Return Guideline. The AER estimated the differences between December 2007 and July 2013, assuming annual growth in the benchmark debt balance of 5, 10 and 20 per cent. Based on these estimates, the AER concluded:¹

‘We recognise that the use of a simple trailing average might result in a mismatch between the return on debt allowance and the expected required return on debt of a service provider. In particular, this might be the case if the service provider’s debt balances are increasing and the prevailing rate is different from the simple trailing average. However, we are not persuaded that this mismatch would be material.’

- The AER clearly anticipated the potential for differences between the simple and weighted trailing cost of debt, based on high assumed annual growth rates in the debt-funded portion of the RAB, and over a period that included a highly volatile prevailing cost of debt (eg, the 2008 global financial crisis).
- In our view, the final Debt Omnibus paper should clarify why the current difference between the simple and weighted trailing average is now considered to be material relative to the estimated differences in 2013.

1.2 Misconceptions regarding the NPV=0 condition

- The draft paper summarises the key features of the NPV=0 condition as follows²:
 - the ex-ante expectation is that over the life of the investment, the expected cash flow from the investment meets all the operating expenditure and corporate taxes, repays the capital invested and there is just enough cash flow left over to cover investors’ required return on the capital invested
 - a NPV=0 investment is expected to generate no economic rents, and
 - investments achieve NPV=0 if the present value of the future cash-flows equals the initial investment.
- In QTC’s view, there are several misconceptions in the draft paper regarding the NPV=0 condition and the trailing average approach. It is not clear if these misconceptions will affect the cost of debt approach in the 2022 Rate of Return Instrument. However, in the spirit of good regulatory practice, QTC considers the following issues should be clarified in the final Debt Omnibus paper.

1.2.1 Perceived relevance of differences between the book and market value of debt

‘The on-the-day approach (which is particular type of weighting scheme with all weight applied to the first year return on debt) and the simple trailing average with transition both satisfy the NPV=0 condition over the remaining asset life of the RAB. However, only the on-the-day approach will meet the NPV=0 condition over each regulatory control period.’

Unlike the on-the-day approach, the trailing average approach can result in the market value of the total assets deviating from the RAB at the commencement of the regulatory control period. This is caused by the trailing average not being a forward looking estimate of the current opportunity cost of debt.’³

- The above statements imply that a difference between the book and market value of the debt-funded portion of the RAB at the start of a regulatory period means that NPV=0 will not be satisfied in that regulatory period. In QTC’s view, this is not correct.
- The timing and frequency of updates to other revenue building blocks such as the allowed return on equity and operating expenditure are not relevant under the trailing average approach. This is due to the following key features of the trailing average approach:

¹ AER (2013), *Rate of Return Guideline draft decision*, p. 91–92.

² AER (2021), *Rate of Return Draft Debt Omnibus Paper*, p. 22–23.

³ Draft Debt Omnibus paper, p. 23.

- the debt-funded portion of the RAB is funded in equal amounts by 10 fixed-rate loans with staggered remaining terms to maturity of 1–10 years, and
- each year, 10 per cent of the debt-funded portion of the RAB matures and is refinanced with a new 10-year fixed-rate loan at the prevailing cost of debt.
- The fixed interest rate on each loan equals the prevailing cost of debt when the loan was made. As such, the book and market value of each loan were equal when each loan was made (ie, NPV=0). Furthermore, the book and market value will be equal when a loan matures and is refinanced with new 10-year debt (ie, NPV=0).
- Given that NPV=0 is satisfied for each individual loan, it follows that NPV=0 is also satisfied for the portfolio of loans. The fact that the loans are re-priced at different points in time is not relevant. As such:
 - any future difference between the book and market value of the portfolio of loans has no implications for NPV=0, either at the start of any regulatory year or on average over the life of the assets, and
 - beyond the first year of transition, there is no requirement for the book and market value of the debt-funded portion of the RAB to be equal at any point in time for NPV=0 to be satisfied at that point in time.
- Under the trailing average approach, the cost of debt allowance equals the efficiently incurred cost of debt for the benchmark firm. This results in a zero net cash flow to the equity providers, which is consistent with the trailing average approach satisfying the NPV=0 condition in *each regulatory year*.
- In contrast, it was the on-the-day approach that produced mismatches (ie, windfall gains and losses) between the cost of debt allowance and the efficiently incurred cost of debt for the benchmark firm. This occurred because it is not possible to implement the debt management strategy implied by the on-the-day approach.
- It was these mismatches that led to a consumer-initiated rule change proposal to move away from the on-the-day approach to a trailing average approach that:⁴

‘... addresses the problem of volatile estimates of debt costs when sampled over a short period of time, and it also addresses the problem of windfall gains and losses that arise when there are differences between the embedded and future costs of debt.’

1.2.2 Imitating competitive market outcomes

‘We consider employing the rate of return that is commensurate with the prevailing market cost of capital is consistent with the zero NPV investment condition. A return on debt that better reflects prevailing market cost of debt more closely imitates the outcomes of a competitive market.’⁵

- The above statement is not accurate because it ignores the fact that fixed-price contracts are commonly used in competitive markets, and this is relevant to how the cost of debt should be determined for regulated businesses.
- Fixed-price contracts eliminate exposure to prevailing prices during the term of the contract. If the contracts are initially struck based on the prevailing price, they will satisfy NPV=0. Any subsequent change in the prevailing price during the term of the contract does not result in an ex-post violation of NPV=0.
- It follows that the prevailing price in a competitive market is only relevant to the pricing of new contracts, and expiring contracts that are being extended. The prevailing price is of no relevance to contracts that were entered into in the past, and have not yet expired.
- Under the trailing average approach, consumers have implicitly entered into a series of fixed interest rate contracts on the debt-funded portion of the RAB, with annual expiry dates between 1–10 years. The prices paid by consumers reflect the average interest rate on these contracts. Each contract has been priced at the prevailing interest rate when the contract was entered into (ie, NPV=0).
- As such, the prevailing rate is only relevant to the expiring contract that is being re-priced and extended for 10 years. This contract only applies to 10 per cent of the debt-funded portion of the RAB.
- In the presence of fixed-price contracts, there is no requirement for the prevailing rate to be applied to the entire debt-funded portion of the RAB to imitate the outcomes of a competitive market.

⁴ Energy Users Rule Change Committee (October 201), *Proposal to change the National Electricity Rules in respect of the calculation of the Return on Debt*, p. 43.

⁵ Draft Debt Omnibus paper, p. 23.

- Finally, if prices in competitive markets were set in the way implied by the draft paper, prices would be highly volatile and change every day with the prevailing cost of debt, or be fully reset to reflect the prevailing cost of debt at some arbitrary frequency (eg, every 5 years). Clearly, this is not what happens in practice.

1.2.3 Perceived benefits in holding or selling a regulated asset when the trailing average is above the prevailing cost of debt

*'... if at the commencement of the regulatory control period the prevailing return on debt is less than the 10 year average return on debt, the market value of future regulatory cash flows will exceed the value of the RAB. An investor will be able to purchase the asset for a market value that is in excess of the RAB, as the investment can be financed at a cheaper rate than what is implied in the return on capital building block. In this scenario the regulated price would be higher than the prices that would prevail in a workably competitive market.'*⁶

- There is no benefit to an investor that is 'able to purchase an asset' with a market value that is higher than the book value. The higher price paid offsets any benefit from financing the debt-funded portion of the RAB at the lower prevailing cost of debt.
- Similar views on the perceived relevance of differences between the book and market value of debt when a regulated asset is sold were expressed in the Term of the Rate of Return draft working paper:⁷

*'For businesses that are conducting asset sales, the proceeds from the sale would presumably be used to repay the debt that was financing those assets. A trailing average return on debt would no longer appropriately reflect the ongoing actual costs of the business and would consequently depart from the NPV=0 principle. Further, when the trailing average return on debt is higher than the prevailing rates, there may be reasons for either holding or selling the asset. Principally, **holding the asset can yield a return above the prevailing rate while selling the asset would yield higher prices (because the sale price would presumably be at the lower prevailing/on-the-day rate).**'*

- If a regulated business maintains a debt portfolio that is aligned with the trailing average approach, the cost of debt allowance will match the average debt service cost in each regulatory year⁸. This results in a zero net cash flow to the equity providers, which means the trailing average approach satisfies NPV=0 in each regulatory year.
- It follows that there is no net benefit (ie, no economic rents) from holding a regulated asset if the trailing average cost of debt is above the prevailing cost of debt.
- There is also no net benefit to the seller or buyer if a regulated business is sold when its trailing average is above the prevailing cost of debt. The present value of any difference will be reflected in the sale price and the market value of debt, which is the amount the seller must pay to extinguish the debt. For example:
 - If the trailing average cost of debt is 1.0 per cent higher than the prevailing cost of debt, the debt market value will be approximately 5.0 per cent higher than the debt book value⁹. If the book value of debt is \$100, the market value of debt will be approximately \$105.
 - The sale price will include the present value of the higher trailing average cash flows based on the lower prevailing cost of debt. The present value of these cash flows is also \$105¹⁰.

⁶ Draft Debt Omnibus paper, p. 23.

⁷ AER (2021), *Term of Rate of Return draft working paper*, p. 49.

⁸ Consistent with incentive-based regulation, a net cost or benefit may arise if a service provider intentionally departs from the debt management strategy implied by the trailing average approach, however these departures are not relevant to the scenario being considered.

⁹ The modified duration of the trailing average debt portfolio is approximately 5 years.

¹⁰ The trailing average cost of debt allowance is based on a benchmark debt portfolio of 10 fixed-rate loans with annual maturities from 1–10 years. The rate that applies to each loan will depend on how far the service provider has progressed through the transition for the previous on-the-day approach. The market value of the benchmark portfolio (based on the prevailing cost of debt) will be reflected in the sale price because the new owner is effectively buying the benchmark debt portfolio cash flows. This is similar to an investor paying more than par for a fixed-rate bond with a coupon that is higher than the prevailing market yield.

- There is no net benefit to the seller because \$105 from the sale price (ie, the present value of the trailing average cash flows) is used to repay the \$105 market value of debt, resulting in a zero residual cash flow.
- There is no net benefit to the buyer because the higher sale price paid offsets the benefit (in present value terms) from raising new debt at the lower prevailing cost of debt.

1.3 Considerations for the final Debt Omnibus paper

- QTC is not aware of any proposals for a return to the on-the-day cost of debt approach. As such, it is not clear why Section 3.2.4 of the draft paper has raised issues with the application of the trailing average approach to the existing debt-funded portion of the RAB.
- Consistent with good regulatory practice, QTC considers it appropriate for these issues to be clarified in the final Debt Omnibus paper. Specifically, the final paper should confirm the following:
 - The trailing average approach is consistent with the NPV=0 condition in each regulatory year because the allowed cost of debt equals the efficiently incurred cost of debt for the benchmark firm. As such, no economic rents are generated if the trailing average cost of debt is above the prevailing cost of debt.
 - Beyond the first year of transition, there is no requirement for the book and market value of the debt-funded portion of the RAB to be equal for the NPV=0 condition to be satisfied at any point in time.
 - Given that NPV=0 is satisfied at the individual fixed-rate loan level under the trailing average approach, NPV=0 is also satisfied at the portfolio level.
 - Fixed-price contracts are commonly used in competitive markets. Under the trailing average approach, consumers have implicitly entered into a series of fixed interest rate contracts on the debt-funded portion of the RAB, with annual expiry dates between 1–10 years. Only one contract expires and is re-priced each year, so it is not necessary to apply the prevailing cost of debt to the entire debt-funded portion of the RAB to imitate the outcomes of a competitive market.
 - There is no net benefit (cost) to the equity providers from holding a regulated asset when the trailing average cost of debt is above (below) the prevailing cost of debt.
 - There is no net benefit (cost) to the equity providers from selling a regulated asset when the trailing average cost of debt is above (below) the prevailing cost of debt.