

8 June 2012



Mr John Pierce
Chairman
Australian Energy Market Commission
PO Box A2449
SYDNEY SOUTH NSW 1235

Dear Mr Pierce

Reference code: ERC0134

Please find attached QTC's supplementary submission to the Australian Energy Market Commission's Directions Paper. The submission outlines an updated moving average methodology for calculating the benchmark return on debt for Network Service Providers, which amends our original proposal in our submission dated 16 April 2012.

A spreadsheet-based model has been developed to assist stakeholders in understanding the proposed calculation methodology. QTC would like to make the spreadsheet available to all interested parties via the AEMC website.

Should you have any queries in relation to our submission please contact Brian Carrick on (07) 3842 4716 or David Johnston on (07) 3842 4782.

Sincerely



Philip Noble
Chief Executive

Moving average approach – detailed design issues



SUPPLEMENTARY SUBMISSION TO THE ECONOMIC REGULATION OF
NETWORK SERVICE PROVIDERS RULE CHANGE PROCESS

QUEENSLAND
TREASURY
CORPORATION

Introduction

QTC has undertaken detailed analysis of the use of moving average approaches to refine the proposal set out in our response to the Australian Energy Market Commission's (AEMC) Directions Paper. The analysis addresses concerns raised by various stakeholders regarding the detailed design and implementation of a moving average approach.

Weighted moving average approach

QTC proposes that a weighted moving average should apply to the base interest rate and debt risk premium used to calculate the benchmark return on debt for Network Service Providers (NSPs). The weighting to apply to each period would be based on the assumption that the NSP refinances an equal proportion of its existing debt on a straight line basis over the length of the moving average period, plus any new borrowings. The length of the moving average would be equal to the tenor of the benchmark corporate bond, which is currently ten years, and the averaging would use end-of-quarter values. Debt balances would be based on figures contained in the post-tax revenue model, and the calculation of the return on debt would be based on quarterly data and updated each year.

A ten-year moving average of the ten-year corporate cost of debt is consistent with the cost of debt produced by the efficient funding strategy that would be used by NSPs in the absence of regulatory distortions.

This updated proposal represents a change from our initial proposal which used a simple moving average over a period of five years. The updated proposal has been adopted because the weighted moving average approach addresses concerns regarding investment distortions and the ability for NSPs to align their funding strategies to the regulatory return on debt allowance. Investment distortions are eliminated because new borrowings are incorporated at the prevailing rate, rather than the historical rate as occurred under the simple moving average. NSPs will be able to use a portfolio version of their current interest rate swap-based hedging strategy to recover the base rate component of the cost of debt, instead of a single five-year swap. This is shown in Appendix A. The use of an averaging period in line with the benchmark

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debt tenor should minimise any difference between debt risk premiums incurred and the debt risk premium incorporated in the benchmark return on debt.

QTC has developed a spreadsheet-based model which sets out the calculation approach, which is attached to this submission. For illustrative purposes and to reduce the number of calculations, the model is based on annual rather than quarterly data points.

Application of the transitional rule

The transitional rule in our initial proposal would be incorporated into this updated proposal. Under this rule, at the time the NSP elects to use the moving average approach, the prevailing rate during the next rate reset period will apply for the first year. In the second year, the first year rate will in effect have a 90% weighting, absent any increases in debt which affect the weighting, and that weighting will diminish by 10% each year. Based on a ten year averaging period and quarterly observations, this is equivalent to setting the initial forty observations in the moving average to equal the average prevailing rate during the next rate reset period. This process is illustrated in Figure 3 in Appendix A.

The transitional rule ensures that the NSP is not able to receive a higher initial rate simply by electing to use the moving average approach. It also avoids the need to reach agreement on the return on debt calculation for each of the preceding nine years.

A transitional rule could also be developed to allow the NSP to leave the moving average approach and return to the five yearly rate reset. Under this rule, the prevailing rate at the time of the election to leave would be applied once each of the ten year rates expires, such that its proportion would increase from 10% to 50% by the next reset. The prevailing rate determined at the next reset would apply to 60% of the debt balance increasing by 10% each year. The transition out of the moving average would take two regulatory periods. We consider it is unlikely that NSPs would elect to leave the moving average approach. However this circumstance should be catered for in the National Electricity Rules.

The establishment of interest rate hedging arrangements under the transitional rule for NSPs which elect to use the moving average is described in Appendix A.

Other implementation issues

Calculation of the prevailing rate

It is QTC's view that the methodology and data source for calculating the prevailing (ie, spot) values for the base rate and debt risk premium should be considered independently of the use of a moving average, rather than specifying parameter values or calculation methodologies as part of a formula. This ensures that the basis for calculating the benchmark return on debt for the efficient NSP can be updated in light of new evidence or approaches.

We recognise that the use of a moving average lends itself to using indices (such as the Bloomberg Fair Value Curve) as opposed to, say, a sample of bonds, otherwise there could be pressure to re-open the measurement approach each year.

Under this proposal any changes to measurement parameters would be applied on a prospective basis for prevailing rates which are calculated after the new revenue determination, and would not affect historic rates.

Frequency of measurement

QTC proposes that the moving average should be calculated on a quarterly basis. This could use end-of-quarter rates or the rates on a nominated date each quarter if there are any concerns regarding impact on yields of end-of-month market activity.

The frequency of measurement is relevant for the hedging strategy because, to achieve a close match with its return on debt, the NSP would need to transact interest rate swaps at the same time and frequency. From this perspective, continuous daily calculation would be too difficult to replicate, and weekly or monthly measurements would involve additional administration for little overall impact. Our analysis of historical rates suggests that there is little difference between ten year moving average values calculated using daily or end-of-quarter data.

Calculating of the moving average interest rate

There are two approaches which could be used to calculate the benchmark return on debt each year. Under the first approach, the rate is simply the dollar-weighted average of the rates on the assumed debt in the NSP portfolio. A second approach involves calculating the effective interest rate, which is the internal rate of return of all future payments on the NSP debt portfolio. This approach is slightly more complex, but is identical to the effective interest rate calculation that is used under the Accounting Standards where debt is valued at its historical cost and is familiar to NSPs.

The effective interest rate is a more accurate measure of the forward-looking cost of debt as it takes into account the size and timing of the future principal and interest payments (ie, the original interest rate on a borrowing which matures next quarter has a lower weighting than the rate on the most recent ten year borrowing). QTC prefers the use of the effective interest rate, because it aligns with the methodology employed by QTC and its clients to determine their annual interest rate.

Application of the moving average approach

It is QTC's view that the moving average approach should be adopted at the election of the NSP, because the hedging strategy of the NSP is determined by the method used to calculate the return on debt allowed by the regulator. It would be impractical for a NSP to alter its hedging strategy if the regulator decided to switch from the NSP's proposed approach. In light of the transitional rule, which prevents gaming of the election to use the moving average approach, there is no risk for the regulator or consumers if the NSP switches to the moving average approach. The election to use the moving average approach could form part of the regulatory revenue proposal.

The weighted moving average approach should be incorporated in a model which is available for NSPs to use, similar to the post-tax revenue model published by the Australian Energy Regulator. QTC has developed a template which may be suitable as the basis to develop such a model.

Application to the cost of equity

While the AEMC's analysis is focused on the cost of debt, the weighted moving average proposal could be equally applied to the risk-free rate used to calculate the cost of equity. It is QTC's view that a consistent approach should be applied to the benchmark return on debt and equity.

Advantages of this proposal

Resolves issues relating to investment distortions

Our initial proposal was for a simple average with a shorter averaging period of five years to minimise the impact of investment distortions. However, subsequent analysis indicates that a weighted moving average approach can be developed to eliminate investment distortions (by applying the prevailing rate to new borrowings) and can be replicated in the funding strategy of the efficient NSP. Accordingly, the averaging period should be based on the benchmark tenor of bonds issued by an efficient NSP.

Address issues raised by other stakeholders

The Energy Networks Association (ENA) noted the risk of windfall gains or losses at the time when the moving average is applied. The transitional rule discussed in this paper eliminates the potential for windfall gains or losses by applying the moving average approach based only on forward-looking rate data after the election, which would form part of the regulatory revenue proposal.

Although some NSPs may have already entered into swaps to hedge their base rate exposure, these swaps will mature towards the end of the current control period. By transitioning to the moving average at the NSPs next rate reset period there is no requirement to close out or adjust these hedges. As noted above, the use of a moving average should be at the election of the NSP to avoid the situation where there is a mismatch between the rate of return approach and hedging strategy employed by the NSP.

The ENA also noted that NSPs would not be able to hedge a base rate that reflects historical interest rates, because it did not have the opportunity to enter into swaps at the time. This issue is addressed by the transitional rule, which applies the prevailing rate at the time of the next rate reset period, allowing the NSP to establish a new swap hedge portfolio for the base rate component at the same time (as shown in Appendix A).

The ENA suggested that there would be significant calculation issues relation to the application of a moving average, including the need to produce estimates of previous debt risk premiums over the last ten years. However, under the transitional rule described above, historical rates at the time of the election to use the moving average are not relevant. Our analysis indicates that there is little difference between a ten year moving average which is calculated using daily, weekly, monthly or quarterly data, and accordingly we propose quarterly calculation to reduce the number of observations and the frequency of swap transactions to a manageable level.

Can be replicated by both private and government-owned NSPs

Appendix A sets out how a privately-owned NSP could use interest rate swaps to hedge the base rate component of the benchmark return on debt. Government-owned NSPs, which are funded through central treasury authorities, could execute similar transactions or use a portfolio of bonds with staggered maturity dates to recover the base rate component. This is a significant improvement on the current approach and alternative approaches that only apply a moving average to the debt risk premium, which both favour NSPs with smaller volumes of debt that can be hedged during each rate reset period.

Reflects funding practices employed by competitive entities

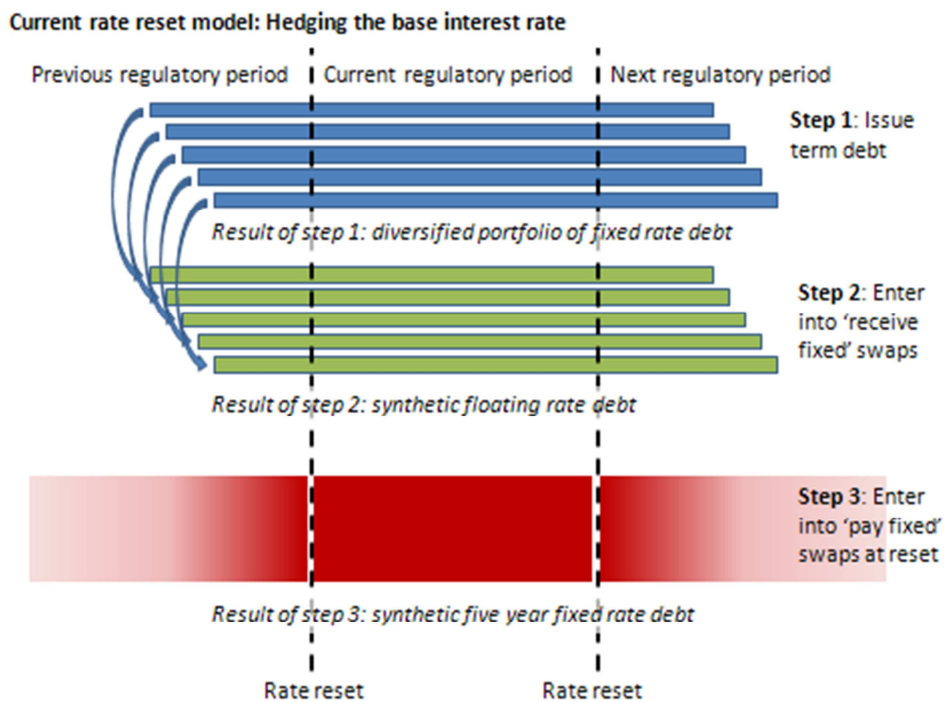
The ten-year moving average approach is consistent with the funding strategy of entities with long-life assets that operate in competitive markets. QTC is responsible for funding clients with large asset bases that operate in competitive markets, such as electricity generators, and the adoption of a moving average approach would allow similar funding strategies to be used for both regulated and non-regulated clients. Contrary to the assumption which is implicit in the current five-yearly reset model, these competitive businesses do not maintain artificially short funding profiles in order to reset their funding cost in line with the cost of debt for new entrant businesses. Furthermore, they do not fully reset the base interest rate on their entire debt portfolio at a single point in time. Rather, the total cost of debt gradually changes over time (in a similar way to a moving average) as maturing debt is progressively refinanced with new ten year debt.

This type of debt funding strategy was identified by the ENA as being reflective of a 'best practice' approach to debt management for a non-regulated infrastructure service provider with long-lived assets. Calculating the benchmark return on debt using a ten-year moving average of the ten-year base rate and debt risk premium would bring the funding approach for regulated NSPs into line with that of efficient non-regulated businesses.

Appendix A

Figure 1 below shows how privately-owned NSPs currently hedge their cost of debt in line with the regulatory reset period. The strategy involves issuing a diversified portfolio of debt (Step 1) which is either issued on a floating rate basis, or is converted to a synthetic floating rate exposure by entering into ‘receive fixed’ swaps (Step 2). At the time of the regulatory rate reset, the NSP enters into a five-year ‘pay fixed’ swap (Step 3) to align the base interest rate with the return on debt. The key advantage of this approach is that it separates refinancing risk from the management of interest rate risk, with debt maturities spaced over a period of ten or more years.

FIGURE 1



This strategy does not allow for a perfect match however, because the debt risk premium paid by the NSP depends on debt margins at the time the debt is issued, while the debt risk premium included in the return on debt depends on debt margins during the rate reset period.

NSPs can also hedge future borrowings using forward starting swaps, as shown in Figure 2. The forward starting swap locks in the base interest rate at the time of the rate reset period, and commences when the new debt is drawn.

FIGURE 2

Current rate reset model: Hedging future borrowings

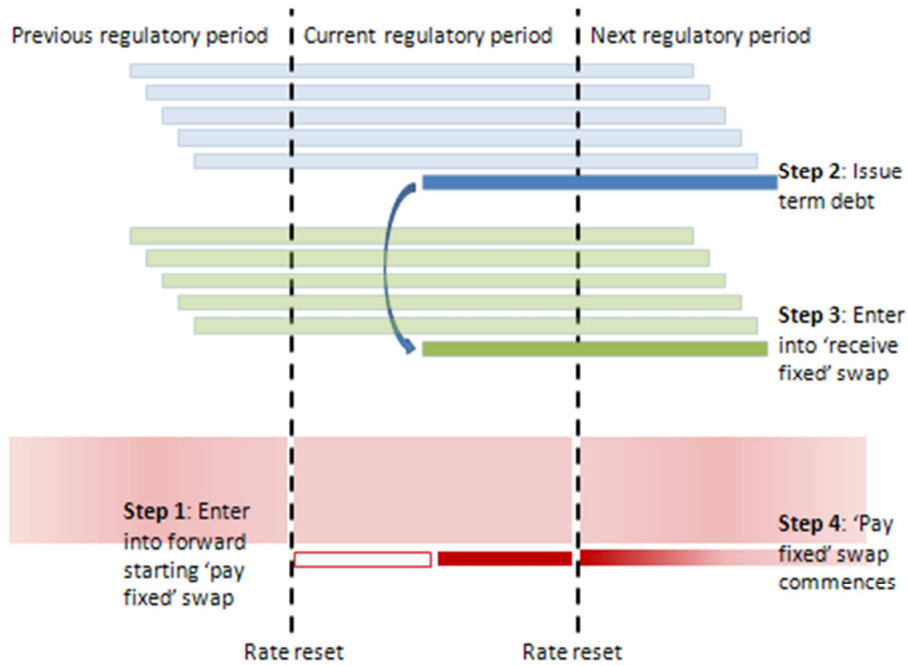
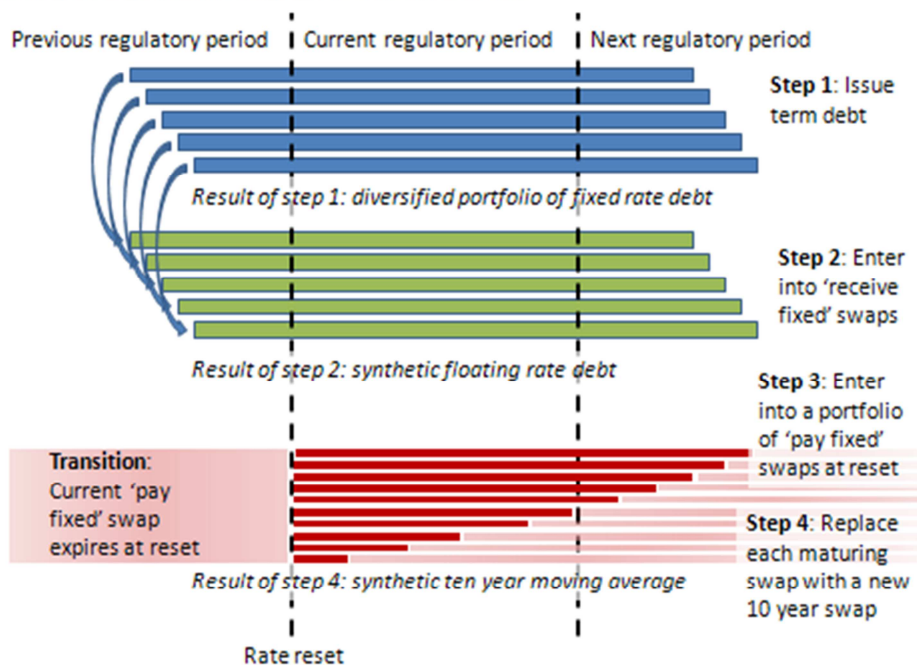


Figure 3 illustrates the hedging strategy that would be implemented under the moving average approach, at the time when the NSP elects to use the moving average.

FIGURE 3

Moving average model: Hedging the base interest rate



Steps 1 and 2 are the same as the current strategy. At the first rate reset when the moving average commences, the NSP enters into a portfolio of swaps with equal notional values and staggered tenors from one year out to ten years rather than a single five-year swap. In practice, if end-of-quarter rates are used to calculate the average, the NSP would enter into forty swaps which mature at the end of each quarter out to ten years. When each swap matures, the NSP would replace the maturing swap with a new ten-year swap. As such, there is additional

administration required to establish the new swap portfolio, however this requires a one-time effort at the next rate reset period. Maintaining the swap hedge portfolio is simple process of replacing each maturing swap with a new 10-year swap.

Under the weighted moving average approach, new borrowings are incorporated at the prevailing ten-year rate. To hedge the new borrowing, the NSP would enter into a ten-year swap at the prevailing swap rate. In contrast to the current approach, there is no requirement to enter into a forward starting swap at the time of the rate reset. This is shown in Figure 4.

FIGURE 4

Weighted moving average model: Hedging future borrowings – using 10 year swap

