

20 January 2014

Mr Michael Blake
Queensland Competition Authority
GPO Box 2257
Brisbane QLD 4001

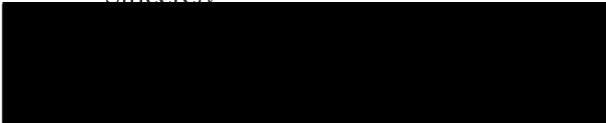
Dear Mr Blake

Cost of Debt Discussion Paper

Queensland Treasury Corporation welcomes the opportunity to provide comments to the Queensland Competition Authority on PricewaterhouseCoopers' report titled "A cost of debt estimation methodology for businesses regulated by the Queensland Competition Authority". We have also provided comments on a range of issues that we consider to be relevant to the calculation of the cost of debt.

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

Cost of debt submission to the Queensland Competition Authority



QUEENSLAND
TREASURY
CORPORATION

20 JANUARY 2014

Summary of QTC's views

QTC's views on the calculation of the benchmark cost of debt for firms regulated by the Queensland Competition Authority (QCA) are as follows:

- QTC supports the use of the extrapolated Bloomberg Fair Value Curve and the econometric methodology developed by PricewaterhouseCoopers (PwC) to estimate the benchmark debt yield.
- QTC supports the use of yields on domestic debt issues with a range of tenors, credit ratings, and from multiple industries to apply PwC's estimation methodology.
- A full reset of the benchmark cost of debt during a short averaging period once every 5 years, or any other frequency, implies the use of a debt financing strategy that would not be used by an efficiently financed firm. This applies even if the benchmark debt tenor is 10 years.
- QTC considers that a 'trailing average portfolio approach' should be used to calculate the benchmark cost of debt. This approach, which has been recently adopted by the Australian Energy Regulator (AER), is based on the cost produced by a benchmark portfolio of fixed rate debt with annually spaced maturity dates out to 10 years.
- In QTC's view, a trailing average portfolio approach is consistent with how an efficiently financed firm with stable revenues, long-lived assets and above-average gearing would manage its refinancing and interest rate risk exposures in the absence of regulatory constraints or distortions.
- The proper application of a trailing average portfolio approach requires an appropriately long benchmark debt tenor (ie, at least 10 years), annual updates to the benchmark cost of debt and the weight-averaging of new borrowings at the prevailing cost of debt.
- A weighted trailing average portfolio approach will create incentives for efficient debt management practices, ensure efficient investment signals by compensating new borrowings at the prevailing cost of debt, and reduce price volatility for consumers,
- Compensation for benchmark debt raising costs should include the costs associated with the early issuance of new long-term debt to refinance a soon-to-mature borrowing. This practice is widely used by regulated and non-regulated infrastructure firms, and is considered to be an essential part of a prudent strategy for managing refinancing risk.

General comments

The Queensland Competition Authority (QCA) has engaged PricewaterhouseCoopers (PwC) to provide advice on a cost of debt estimation methodology for the businesses it regulates¹. The terms of reference provided to PwC are focussed on the data sources and estimation methods that could be used to estimate the benchmark debt yield at a point in time. While making an accurate estimate of the benchmark debt yield is important, QTC considers the way the QCA uses these estimates to calculate the benchmark cost of debt to equally as important.

Recent changes to the National Electricity Rules (NER) and National Gas Rules (NGR) allow the Australian Energy Regulator (AER) to consider different approaches for calculating the benchmark cost of debt for network service providers. Following an extensive consultation process involving consumer groups, service providers and other stakeholders, the AER concluded that a trailing average portfolio approach should be used to calculate the benchmark cost of debt. Under this approach 10 per cent of the benchmark cost of debt is 'repriced' each year based on the prevailing 10-year BBB+ fixed corporate yield.

The new approach represents a fundamental change from the previous 'on the day' approach, which required the benchmark cost of debt to be fully reset during a short averaging period once every 5 years.

In this submission we have referred to some of the key conclusions reached by the AER and the Australian Energy Market Commission (AEMC) in relation to the cost of debt. In particular, the AEMC emphasised the importance of providing compensation for efficient debt financing costs and creating incentives for regulated firms to adopt efficient debt financing and risk management strategies. The AER concluded that a trailing average portfolio approach reflects efficient financing practice because it is consistent with the actual debt management strategies used by non-regulated businesses.

QTC considers the consultation and analysis performed by the AEMC and AER to be relevant to the QCA's cost of debt review. As the QCA's current approach is consistent with the approach that will no longer be used by the AER, the QCA's review may benefit from taking into account the reasons for the AER's decision to use a trailing average portfolio approach.

¹ PwC, *A cost of debt estimation methodology for businesses regulated by the Queensland Competition Authority*, June 2013.

Section 1 – Estimating the benchmark debt yield

PwC’s proposed estimation methodology

QTC considers the econometric methodology developed by PwC to be a sound and robust method for estimating the benchmark debt yield.

QTC agrees with PwC’s assessment that econometric approaches have the potential to extract more information from the available data compared to the averaging approaches used or proposed by the Independent Pricing and Regulatory Tribunal (IPART), the Economic Regulation Authority of Western Australia (ERA), and the AER². Provided the functional form is correctly specified, an econometric approach allows an estimate of a 10-year debt yield to be made even if the most of the data is based on debt issues with shorter remaining tenors.

Reliance on the Bloomberg Fair Value Curve

QTC supports the use of the extrapolated Bloomberg Fair Value Curve (in conjunction with PwC’s estimates) to estimate a 10-year benchmark debt yield. Bloomberg’s independence from the regulatory process provides comfort that its estimates are unbiased and appropriate for the purpose of calculating the benchmark cost of debt.

Although the paired bond extrapolation method is considered to be an appropriate way of converting a 7-year debt margin to a 10-year debt margin, its ongoing application depends on the availability of bonds with the required remaining terms to maturity. As PwC’s methodology is capable of producing 7- and 10-year debt margins for different credit ratings, QTC considers that these margins could be used as a replacement for the paired bond extrapolation method.

Potential use of the RBA’s non-financial corporate yield estimates

The Reserve Bank of Australia (RBA) has recently started producing monthly estimates of non-financial corporate yields for A and BBB credit ratings and tenors of 3, 5, 7 and 10 years. The underlying data consists of yields on domestic fixed rate bonds and bonds issued by Australian companies in offshore markets³. As PwC’s methodology and the Bloomberg Fair Value Curve are both based on domestic debt issues, giving some weight to the RBA’s corporate yield estimates will allow some non-overlapping information to be incorporated into the QCA’s estimation process.

Impact of estimation errors

Regardless of the methodology and data sources used to estimate the benchmark debt yield, it is likely that some estimation error will be present. The impact of these errors will be magnified by the QCA’s current practice of fully resetting the benchmark cost of debt over a short (eg, 20 day) averaging period and locking this cost in for the 3- or 5-year term of the regulatory period.

Alternative approaches that reset a percentage of the benchmark cost of debt each year, such as the trailing average approach presented in Section 3, are less exposed to non-systematic estimation errors in the benchmark debt yield.

² PwC (June 2013), p. 45.

³ Cross-currency swap rates are used to convert the foreign yields to equivalent Australian dollar fixed yields.

Section 2 – Calculating the benchmark cost of debt

In QTC's view, estimating the benchmark debt yield at a point in time is not sufficient to determine the benchmark cost of debt for a regulated firm. The way in which the benchmark debt yield estimates are used is important because all approaches imply the use of a particular debt financing and risk management strategy or strategies. It is essential for a regulated firm to be able to implement the implied strategy in practice without incurring high transaction costs or creating exposures to uncompensated risks.

The QCA's current approach of fully resetting the benchmark cost of debt prior to the start of each regulatory period is consistent with the 'on the day' approach that was previously used by the AER. This approach assumes that a firm refinances the entirety of the debt funded component of the regulated asset base during each rate reset period⁴. For a firm with above average gearing this strategy carries an unacceptably high level of refinancing risk.

Efficient debt financing costs

A fundamental objective of economic regulation is to provide compensation for the efficient financing costs of the benchmark firm.

QTC considers efficient debt financing costs to be the costs that would be expected to be incurred by a firm that prudently structures and manages its borrowings and interest rate risk exposures, taking into account market-based constraints such as the availability of very long-term debt. These costs can be viewed as the *outcome* from adopting and maintaining efficient debt financing and risk management strategies.

An efficient debt financing and risk management strategy is one that results in a firm's equity providers being exposed to an acceptable level of refinancing and interest rate risk, taking into account the firm's size, average asset life, capital structure, and the characteristics of their cash flows. The ultimate objective is to reduce the probability of financial distress:

*'The primary goal of risk management is to eliminate the probability of costly lower-tail outcomes – those that would cause financial distress or make a company unable to carry out its investment strategy.'*⁵

The QCA can provide compensation for efficient debt financing costs by:

- determining the characteristics of prudent and efficient debt financing and risk management strategies for the benchmark firm, and then
- making the best estimate of the benchmark costs that would be incurred to maintain these strategies over time.

Due to the contractual nature of interest payments, it is important for the time series properties of the benchmark cost of debt to be correctly specified. For example, if an efficient debt financing strategy produces a cost of debt that changes each year, this characteristic should also be reflected in the benchmark cost of debt.

⁴ AER, Rate of Return Guideline Issues Paper, p. 31.

⁵ Stulz, R.M. (1996). *Rethinking risk management*, Journal of Applied Corporate Finance, pp. 23-24.

Efficient debt financing and risk management strategies

In its final rule determination the AEMC reached an important conclusion on how the benchmark cost of debt should be determined:

*‘... the long-term interests of consumers are best served by ensuring that the methodology used to estimate the return on debt reflects, to the extent possible, the efficient financing and risk management practices that might be expected **in the absence of regulation.**’⁶ [emphasis added]*

The AEMC also concluded that the cost of debt approach should create incentives for regulated firms to adopt efficient debt financing and risk management practices.

Both conclusions highlight the need to identify the characteristics of efficient debt financing and risk management practices before an appropriate approach for calculating the benchmark cost of debt can be determined. These characteristics should not reflect arbitrary factors such as the length of the regulatory period.

As outlined previously, an efficient debt financing and risk management strategy is one that results in a firm’s equity providers being exposed to an acceptable level of refinancing and interest rate risk. Financial risk management principles and the observed practices of regulated and non-regulated firms, especially those with long-lived assets and above average gearing, can be used to determine the characteristics of these strategies.

If certain practices are common to both groups, this provides strong evidence of the prudence and efficiency of those practices. To the extent possible, the benchmark cost of debt approach should reflect these practices. If certain practices are only observed among regulated firms, this may indicate the presence of a regulatory distortion or constraint that regulated firms are rationally responding to⁷.

Strategies to manage refinancing risk

Refinancing risk is the risk that a borrower is unable to issue new debt to repay a maturing debt, or that new debt cannot be issued on the preferred terms or at a reasonable interest rate. An efficiently financed firm will seek to manage refinancing risk by:

- issuing new debt early to ensure funds are available to repay maturing debts in full and on time, and
- staggering the maturity dates of its borrowings out to a sufficiently long maximum debt tenor and refinancing each maturing debt with long-term debt.

Early issuance of new debt

Issuing new debt early, and investing the proceeds in a low-risk asset until required is a prudent and efficient strategy to manage refinancing risk. This practice ensures that funds are available to repay maturing debts on time and in full, and to fund new investment when required. The cost associated with this practice is the difference between the interest paid on the newly issued debt and the interest earned on the low-risk short-term asset.

⁶ AEMC, *Final Rule Determination, Economic Regulation of Network Service Providers, and Price and Revenue Regulation of Gas Services*, November 2012, p. 73.

⁷ An example of such a practice is the use of an interest rate swap to lock in a single based interest rate on the firm’s entire debt portfolio during a 20-day period once every 5 years.

Failing to fully repay a borrowing on the scheduled maturity date can have serious consequences for a borrower. A failure to repay may constitute an event of default, which may see the borrower's assets taken over by its creditors. Even if a repayment extension can be negotiated, the borrower's reputation is likely to be damaged, which may jeopardise its ability to borrow in the future. At a minimum, the borrower can expect to pay a higher credit margin on future borrowings, and for its credit rating to be downgraded.

Appendix A provides evidence of the use of this strategy by a range of infrastructure firms including regulated utilities.

Staggered debt maturity profile

QTC considers maintaining a portfolio of debt with annually spaced maturity dates out to a sufficiently long maximum tenor to be an essential feature of a prudent and efficient strategy to manage refinancing risk.

As it is not possible for a levered firm to completely eliminate refinancing risk, it is important for the firm to stagger the maturity dates of its borrowings to keep exposure to adverse refinancing outcomes at a sufficiently low level. A reasonable estimate of a firm's refinancing risk exposure is the percentage on total debt that matures each year, and in particular the percentage maturing within the next 12 months. This approach to debt management is consistent with PwC's observation that:

*'A prudent debt manager would seek to issue debt that results in a relatively even and manageable debt refinancing task each year. Limiting the annual refinancing obligation reduces the exposure of the firm to unforeseen events in financial markets that may make refinancing difficult or excessively costly in the short term.'*⁸

PwC also notes that the size of the annual refinancing task is directly related to the term of debt at issuance⁹. For example, an equally spaced maturity profile out to 10 years will require 10 per cent of the total debt balance to be refinanced each year. To maintain a constant refinancing risk exposure, each maturing debt would be refinanced with 10-year debt. If the maximum debt tenor was 5 years the annual refinancing task would be 20 per cent of the total debt balance, which represents a material increase in the firm's exposure to refinancing risk.

It follows that a firm's exposure to refinancing risk is also directly related to the term of debt at issuance.

Debt maturity profiles for regulated utilities

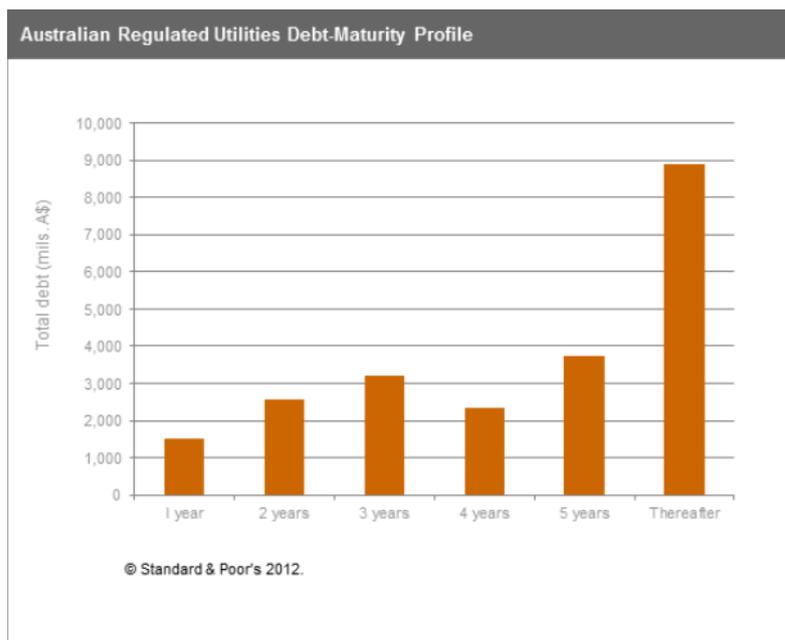
Regulated gas and electricity utilities have displayed a preference to refinance maturing debts with 10-year debt (on average). This is consistent with keeping exposure to refinancing risk at a low level when relatively high debt levels are used to fund assets with very long economic lives.

The issuance of shorter-term debt between 2008 and 2010 was largely due to market conditions and the reluctance by lenders to provide debt finance for tenors longer than 5 years. Despite this, the average debt maturity profile for Australian utilities remains well spaced across a wide range of tenors, as shown in Figure 1:

⁸ PwC (June 2013), p. 19

⁹ PwC (June 2013), p. 19

FIGURE 1: DEBT MATURITY PROFILE FOR AUSTRALIAN REGULATED UTILITIES



Source: Standard & Poors – Industry Report Card: Australian and New Zealand Network Utilities Maintain Stable Credit Quality, November 14 2012

It should be noted that the AER's previous cost of debt approach did not incentivise these firms to adopt staggered maturity profiles. By fully resetting the cost of debt every 5 years, an incentive was created for the firms to adopt maturity profiles that were concentrated around the timing of each rate reset period.

The decision by these firms to maintain staggered maturity profiles out to 10 years despite the lack of regulatory incentives to do so is a strong indication of the prudence and efficiency of this practice.

Debt maturity profiles for unregulated infrastructure firms

Further evidence of the efficiency of this practice can be found by examining the debt maturity profiles of firms that are not subject to economic regulation. Although the business risk profile of these firms may differ from a regulated firm, both groups are exposed to a common risk of having to potentially refinance maturing debt or fund new investment when credit market conditions are unfavourable.

Appendix B displays the debt maturity profiles for a range of firms. The firms most closely related to a regulated firm are those with long-lived infrastructure assets such as Sydney Airport Corporation, Brisbane Airport Corporation, Transurban and Telstra. The maturity profiles for these firms are well spaced and extend out to at least 10 years. As at 30 June 2012 the average remaining term was 7.1 years, which is consistent with an average debt issue term in excess of 10 years.

Strategies to manage interest rate risk

Interest rate risk is the risk of a firm's debt servicing costs not being aligned with its revenues. In general, the probability of a firm becoming financially distressed will increase if its debt servicing costs tend to be relatively high when its revenues or operating profits are relatively low.

In the absence of regulation, a firm with natural monopoly characteristics is likely to have relatively stable revenues. To reduce interest rate risk it is likely that such a firm would adopt debt management strategy that produces a relatively stable long-term cost of debt. This can be achieved with a portfolio of fixed rate debt and a maximum debt tenor of at least 10 years.

Conclusion

Identifying the characteristics of efficient debt financing and risk management strategies is an important first step in designing a benchmark cost of debt approach that provides compensation for efficient debt financing costs.

Financial risk management principles and the observed practices of regulated and non-regulated firms, especially those with long-lived assets and above average gearing, can be used to determine the characteristics of efficient debt financing and risk management strategies.

If certain practices are common to both groups, this provides strong evidence of the prudence and efficiency of those practices. If certain practices are only observed among regulated firms, this may indicate the presence of a regulatory distortion or constraint that regulated firms are rationally responding to.

Refinancing risk is one of the most significant risks faced by regulated and non-regulated firms that fund long-lived infrastructure assets with relatively high levels of debt. Maintaining a debt portfolio with staggered maturity dates out to a sufficiently long maximum tenor is a prudent and efficient strategy to keep refinancing risk at an acceptable level.

Section 3 – Trailing average portfolio approach

The trailing average portfolio approach replicates the cost of debt produced by a benchmark portfolio of fixed rate debt with annually spaced maturity dates out to 10 years. Each year 10 per cent of the portfolio matures and is refinanced with 10-year fixed rate debt at the prevailing interest rate. Over time the annual cost of debt for the benchmark portfolio will equal the average 10-year fixed corporate interest rate over the preceding 10 years.

AER's use of a trailing average portfolio approach

After evaluating a range of benchmark cost of debt approaches the AER concluded:

*'In the presence of refinancing risk, it is efficient for a service provider to hold a portfolio of debt with staggered maturity dates. The allowed return on debt under the trailing average portfolio approach reflects the financing cost of a benchmark efficient entity with such a staggered portfolio. Further, we consider the approach promotes productive, allocative, and dynamic efficiency of debt financing practices.'*¹⁰

The AER also noted that a trailing average portfolio approach will:

- produce lower price volatility for consumers
- minimise the consequences of estimation error in the benchmark debt yield, and
- is reflective of the actual debt management strategies used by non-regulated businesses and, therefore, is 'more likely to reflect efficient financing practice'¹¹.

In the final Rate of Return Guideline the AER stated that it will use a trailing average portfolio approach and a 10-year benchmark debt tenor to calculate the benchmark cost of debt.

Annual updating of the benchmark cost of debt

Annual updates to the benchmark cost of debt are essential to the proper application of a trailing average portfolio approach where a percentage of the existing debt balance is refinanced each year.

An alternative approach of calculating a net present value neutral true-up at the end of each regulatory period will expose consumers and regulated businesses to additional interest rate risks. An analysis of these risks can be found in Appendix A of QTC's submission to the AER's Rate of Return Guideline Consultation Paper.

Simple versus weighted trailing average

A trailing average portfolio approach can be implemented using a simple or weighted average of the benchmark debt yield. A weighted average is appropriate when the debt balance is expected to increase due to the funding of new investment. A weighted average ensures that the new investment is compensated at the prevailing cost of debt rather than the historical average cost of debt.

If a simple average is used, the investment decisions of the regulated firm will be affected by the difference between the prevailing cost of debt and the trailing average cost of debt. Due to the use of overlapping yield data in the trailing average calculation, large differences between

¹⁰ AER Draft Guideline, p. 83.

¹¹ AER Draft Guideline, p. 84.

these costs will naturally occur on a regular basis. As a consequence, a simple average will incorporate a bias towards under (over) investment when the prevailing cost of debt is higher (lower) than the trailing average cost of debt.

The use over overlapping yield data also means that differences between the prevailing and trailing average cost of debt will display persistence over time, which creates the risk of sustained periods of over- or under-compensation if a simple average is used. This is confirmed by the AER’s modelling in the draft Rate of Return Guideline¹². Figure 2 displays the annual difference between a simple and weighted average assuming a 10 per cent annual growth rate in the regulated asset base:

FIGURE 2: EXTRACT OF TABLE I.7 FROM THE DRAFT RATE OF RETURN GUIDELINE

Year/Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2007												0.06
2008	0.07	0.09	0.10	0.10	0.10	0.13	0.13	0.10	0.11	0.09	0.07	0.07
2009	0.09	0.11	0.13	0.13	0.15	0.20	0.18	0.15	0.17	0.18	0.15	0.15
2010	0.16	0.17	0.18	0.18	0.18	0.20	0.18	0.16	0.19	0.21	0.21	0.23
2011	0.22	0.22	0.21	0.21	0.19	0.18	0.15	0.12	0.13	0.13	0.12	0.11
2012	0.12	0.11	0.10	0.07	0.04	0.00	-0.02	-0.03	-0.04	-0.05	-0.05	-0.05
2013	-0.06	-0.07	-0.09	-0.12	-0.14	-0.17	-0.16					

Source: Bloomberg, AER analysis.

The AER’s calculations demonstrate that a regulated firm would have been persistently under-compensated between December 2007 and May 2012 if a simple average was used to calculate the benchmark cost of debt. When evaluating the expected performance of a simple average consideration should be given to the size of the cumulative mismatches over time rather than the annual mismatch at a point in time.

A weighted trailing average based on changes in the benchmark debt balance will ensure that new investment is correctly compensated at the prevailing cost of debt, thereby reducing the potential for investment distortions.

Advantages of a trailing average portfolio approach

A trailing average portfolio approach has a number of advantages compared to the ‘on the day’ approach that is currently used by the QCA:

A portfolio approach will produce an efficient cost of debt

Efficient debt financing costs can be viewed as the outcome from adopting an efficient debt financing and risk management strategy. As demonstrated in Section 2, debt portfolios with staggered maturity dates out to at least 10 years are commonly used by regulated and unregulated infrastructure firms. As both types of firms fund long-lived assets with relatively high levels of debt, this suggests that staggering maturity dates is a prudent and efficient way to

¹² AER Draft Guideline, p. 227.

manage refinancing risk. It follows that the cost produced by a debt portfolio with staggered maturity dates out to 10 years is an efficient cost of debt.

In contrast, a benchmark cost of debt that is fully reset once every 5 years, or at any other frequency, implies the use of an inefficient debt funding strategy that cannot be expected to produce an efficient cost of debt¹³.

A portfolio approach can reduce the potential for investment distortions

Under the ‘on the day’ approach the debt funded portion of new investment made during the regulatory period is compensated at the cost of debt determined at the start of the regulatory period. This creates the potential for investment distortions if the prevailing cost of debt differs from the benchmark cost of debt, which may have been determined several years prior.

A weighted trailing average based on changes in the benchmark debt balance will compensate new borrowings at the prevailing cost of debt rather than the historical average cost of debt, thereby reducing the potential for investment distortions.

A portfolio approach reduces the impact of non-systematic estimation errors

By only resetting 10 per cent of the total cost of debt on an annual basis, estimation errors in the benchmark debt yield are unlikely to have a material effect on the benchmark cost of debt. The benefits of partial and more frequent resetting have been acknowledged by the AER:

‘Since a larger number of observations is used to come up with the final estimate, a single measurement will have a smaller distorting impact on the overall estimate than with the short averaging period used for the “on the day” approach.’¹⁴

A portfolio approach reduces risk for consumers

A benchmark portfolio of fixed rate debt with annually spaced maturity dates out to 10 years will produce a cost of debt that is largely protected from short-term volatility in corporate interest rates. Provided each maturing debt is refinanced with 10-year fixed rate debt, only 10 per cent of the total cost of debt will be reset each year based on prevailing interest rates.

In contrast, the ‘on the day’ approach exposes consumers to the risk of large step changes by fully resetting the cost of debt using prevailing rates prior to the start of each regulatory period.

Conclusion

The debt funding strategy implied by the trailing average portfolio approach (based on a 10-year benchmark debt tenor) is consistent with how a firm with relatively stable revenues, long-lived assets and relatively high gearing levels would structure and manage its debt in the absence of regulatory constraints.

As the implied debt funding strategy is reflective of the actual debt management strategies used by non-regulated businesses it is likely to reflect efficient financing practice.

QTC recommends the QCA consider the use of a trailing average portfolio approach to calculate the benchmark cost of debt.

¹³ This conclusion applies even if a 10-year benchmark debt yield is used. Due to the contractual nature of interest payments, the time series properties of the benchmark cost of debt are just as important as the long-term average cost.

¹⁴ AER Consultation Paper, p. 55.

Section 4 – Benchmark debt raising costs

PwC’s benchmark debt raising cost estimate covers expenses relating to:

- bond arrangement and placement fees
- legal fees
- credit rating fees
- registry costs, and
- agent’s out-of-pocket expenses.

As explained in Section 2, issuing new debt early and investing the proceeds in a short-term low-risk asset until required is a prudent and efficient strategy to manage refinancing risk. This practice ensures that funds will be available to repay maturing debts on time and in full, and to fund new investment when required. The costs associated with this practice are not reflected in PwC’s benchmark debt raising cost estimate.

The incremental interest costs associated with this practice are straightforward to calculate for a given early issue period. The difference between the 10-year fixed corporate yield and the yield on the short-term investment are converted to a dollar figure and then amortised over the remaining benchmark debt term. An example of this calculation is outlined below based on a ten-year fixed BBB yield of 7.0 per cent, a short-term investment rate of 3.0 per cent, and a 3-month early issue period:

Amount borrowed	\$1,000,000	
Interest paid	\$17,500	$\$1,000,000 \times 0.07 \times 0.25$
Interest received	\$7,500	$\$1,000,000 \times 0.03 \times 0.25$
Net interest paid	\$10,000	$\$17,500 - \$7,500$
Annuity over 9.75 years	\$1,449	$\$10,000 \div 6.8997$
Net cost (bp pa)	0.14 per cent	$\$1,449 \div \$1,000,000$
10-year BBB yield	7.00 per cent	
Benchmark debt yield	7.14 per cent	$0.07 + 0.14$

Conclusion

Consistent with our view that efficient debt costs are the outcome from adopting and maintaining efficient debt financing practices, QTC considers that the costs associated with early debt issuance should be included in the benchmark debt raising cost estimate.

Appendix A provides evidence of the use of this strategy by a range of infrastructure firms including regulated utilities.

Appendix A – Early issuance of new debt

In a 2012 report by Standard & Poors the following observations were made about the refinancing practices of several regulated utilities¹⁵:

*'The company [ETSA Utilities Finance Pty Ltd.] is likely to **complete its refinancing of its A\$255 million bank facility maturing in April 2013 by the end of December 2012 at the latest.***

*'ElectraNet's next major debt maturities occur in **June 2013 and August 2013** when a combined A\$400 million matures. **We expect the company to complete [the] refinancing some time by the end of the first-quarter 2013 to maintain liquidity and reduce refinancing risk.***

*'Recent debt issuance by SP AusNet leaves the group well placed to manage the **March 2013** refinancing of the A\$775 million syndicated bank debt facility. At the end of **September [2012]** the group had more than A\$1 billion in cash and undrawn bank lines.'*

These practices are not restricted to regulated utilities:

'Sydney Airport has raised approximately A\$1.1 billion of new senior debt facilities which has addressed all 2013 debt maturities and provided additional liquidity to extend funding of the forecast capital expenditure programme. As part of the refinancing process, each of the three ratings agencies has reaffirmed Sydney Airport's BBB or equivalent credit rating.

*Chief Executive Officer, Ms Kerrie Mather, said, "During the refinancing process, Sydney Airport received very strong support from both international and domestic bond and bank markets. **It is very pleasing to address the 2013 maturities 12 months in advance**, extend the average maturity of the debt portfolio and achieve all-in pricing well inside the existing average of 6.5%."'- ASX release*

'Transurban has continued to have success in refinancing activities in the last 12 months:

***May 2011** - Issued \$200 million of domestic medium term notes, to partially fund \$300 million existing notes maturing in **September 2011.**' – ASX release*

*'Transurban's corporate debt portfolio consists entirely of bullet maturities, and has **a solid track record of refinancing its debt well in advance of maturity.**' – Fitch comment*

The same strategy is used by state government borrowers such as QTC. QTC's liquidity policy requires one sixth of the amount outstanding in a benchmark bond line to be progressively refinanced over a six month period prior to the scheduled maturity date. The proceeds from the newly issued debt are invested in cash and high quality (and hence low yielding) discount securities until required to repay the maturing bond line. Some bonds may be purchased from investors and cancelled prior to and during the six month refinancing period.

¹⁵ Standard & Poors, *Industry Report Card: Australian and New Zealand Network Utilities Maintain Stable Credit Quality*, November 14 2012.

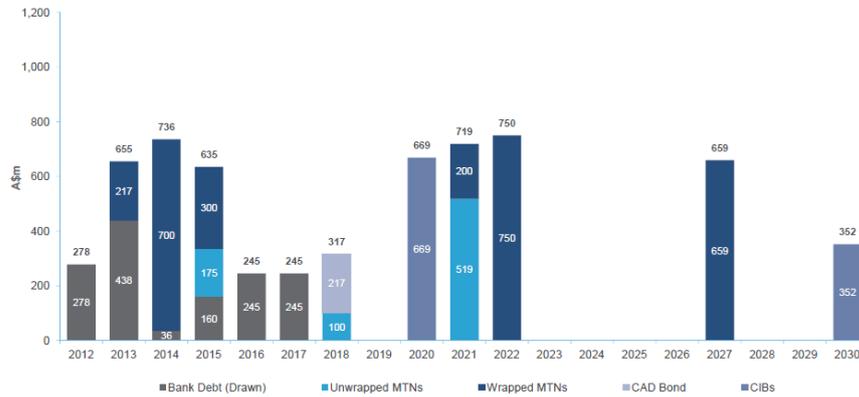
Appendix B – Debt maturity profiles

Sydney Airport Corporation

Debt Maturity Profile



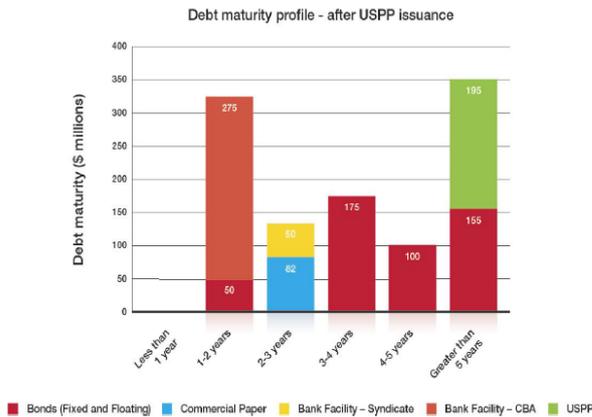
Diversified capital structure with further opportunity to spread maturity



1 Debt maturity profile as at 30 June 2012
 2 The principal repayable on Capital Indexed Bonds (CIB) maturing in 2020 (A\$669m) and 2030 (A\$349m) increased through to maturity linked to the rate of inflation CPI. The annual fixed interest charge on the CIBs is calculated on the increased liability
 3 Undrawn debt of A\$115m for CY2013, A\$86m for CY2014, A\$278m for CY2015, A\$152m for CY2016 and A\$337m for CY2017
 4 Funding already raised to redeem A\$278m of bonds maturing in October 2012

Source: Sydney Airport – AUD, CAD & US144A Debt Investor Update, 19 September 2012

Auckland Airport



Debt is based on contractual maturities at par excluding interest rate swap valuations.

Commercial Paper maturities are less than three months but are supported by committed bank facilities that mature in March 2013.

The above graph shows debt maturities assuming the repayment of \$125 million of the Bank Facility - Syndicate in February 2011 and \$75 million Bonds in July 2011 which have been refinanced with USPP debt issuance which has maturities of February 2021 (\$64.8m), July 2021 (\$65.6m) and February 2023 (\$64.8m).

Finalised agreement on refinancing for US\$150 million in the US Private Placement (USPP) market in December 2010 to replace debt maturing in March and July 2011.

This issuance into a new international debt market achieved:

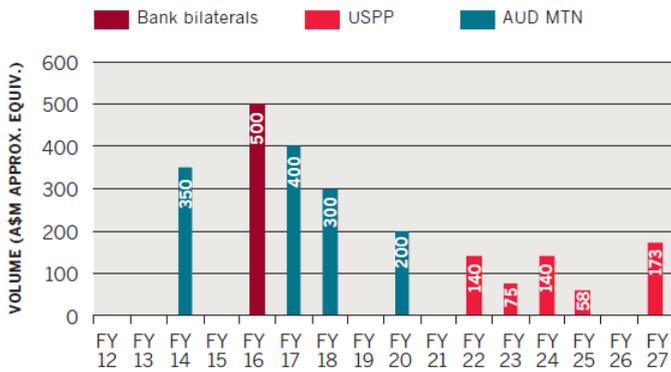
- attractive pricing;
- delayed draw downs to match the debt repayments; and
- tenors of 10 and 12 years to extend Auckland Airport's average debt maturity to 4.56 years.



Source: Auckland Airport – Citigroup London Conference – March 2011

Brisbane Airport Corporation

DEBT MATURITY PROFILE



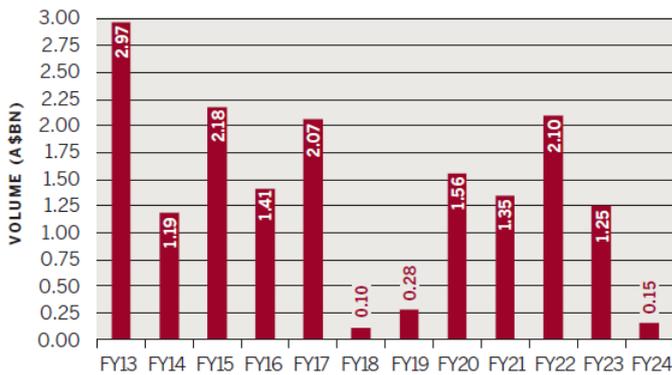
USD borrowings converted to AUD by KangaNews at issue date FX rates.

SOURCE: BRISBANE AIRPORT CORPORATION SEPTEMBER 30 2012

Source: KangaNews issuer profile

Telstra Corporation

DEBT MATURITY PROFILE

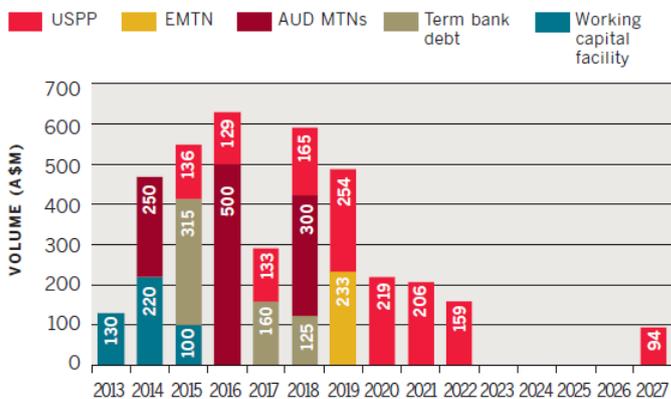


SOURCE: TELSTRA CORPORATION JUNE 30 2012

Source: KangaNews issuer profile

Transurban

DEBT MATURITY PROFILE

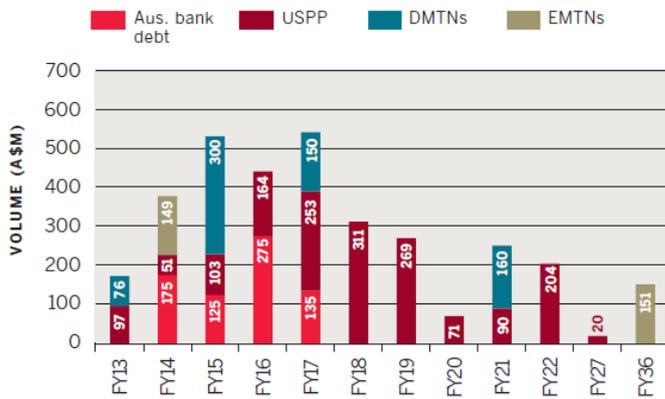


SOURCE: TRANSURBAN JUNE 30 2012

Source: KangaNews issuer profile

Stockland

DRAWN DEBT MATURITY PROFILE

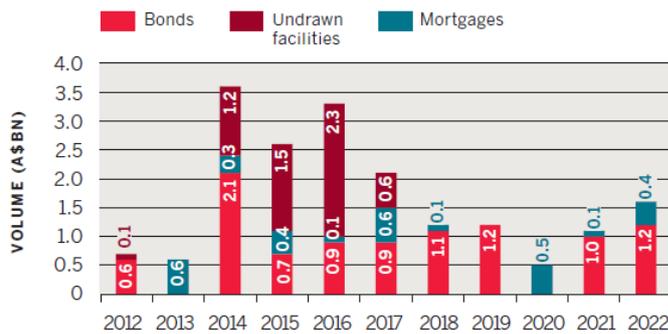


SOURCE: STOCKLAND JUNE 30 2012

Source: KangaNews issuer profile

Westfield Group

DEBT MATURITY PROFILE

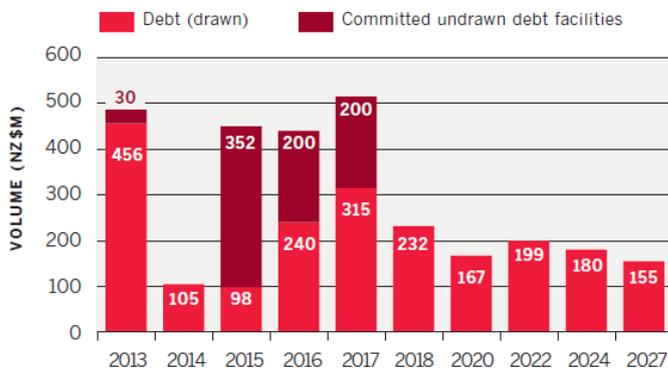


SOURCE: WESTFIELD GROUP 2012

Source: KangaNews issuer profile

Fletcher Building

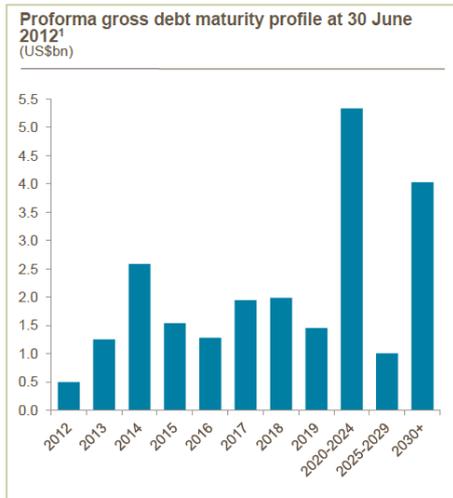
DEBT MATURITY PROFILE



SOURCE: FLETCHER BUILDING JUNE 30 2012

Source: KangaNews issuer profile

Rio Tinto



¹ 30 June 2012 maturity profile adjusted for \$3 billion bond issue August 2012 and \$0.5 billion bond maturity September 2012

- Aim to maintain a single A credit rating
- Long term and smooth debt maturity profile
 - Weighted average maturity of over nine years
 - \$5.5 billion of bonds issued in 2012 with a weighted average maturity of around 12 years and coupon of 3.6%
 - \$1.7 billion of bonds falling due over next 18 months
- Approximately two thirds of gross debt at fixed interest rates

RioTinto

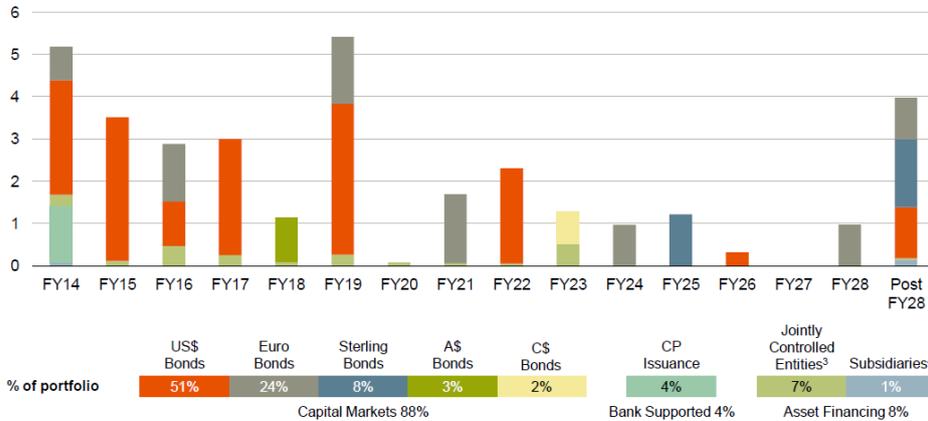
Source: Rio Tinto Investor Seminar, London/New York, 9 October 2012

BHP Billiton

Maturity profile analysis

Debt balances¹

(US\$ billion²)



1. Based on debt balances as at 30 June 2013.
 2. All debt balances are represented in notional US\$ values and based on financial years.
 3. Jointly Controlled Entity debt represents BHP Billiton share subject to governing contractual arrangements.
 4. Subsidiary debt represents BHP Billiton share of subsidiary debt based on BHP Billiton effective interest.

Source: BHP Billiton – Preliminary results for the year ended 30 June 2013