Return on debt: Choice of third party data service provider

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Summary

This submission addresses some of questions raised in the Issues Paper regarding the potential implementation of the Reserve Bank of Australia's (RBA) Non-Financial Corporate (NFC) yield series. QTC's views are as follows:

- The interpolation method outlined in the Issues Paper is a reasonable way of producing daily estimates of the benchmark debt yield based on the RBA's month-end estimates.

- The RBA's credit margin and yield estimates are expressed on a semi-annual compounding basis for tenors longer than 3 years. As such, each interpolated credit margin should be added to the semi-annual base rate, with the total yield being annualised to produce an estimate of the 10-year benchmark debt yield.

- The AER could consider using the 10-year swap yield rather than the interpolated 10-year Commonwealth Government Security yield (CGS). As the 10-year swap yield is published daily by the Australian Financial Markets Association (AFMA), there is no need to interpolate between yields as is the case for the 10-year CGS yield.

- The base interest rate component of the benchmark debt yield can be observed or estimated on a daily basis. As such, the interpolation method should only apply to the credit margin component of the benchmark debt yield.

- Interpolating based on the number of business days between the RBA's month-end estimates is preferable to using the number of calendar days. Using the number of calendar days requires additional steps and is unlikely to produce estimates that are significantly different from a business day-based interpolation.

QTC's comments regarding the interpolation method only relevant if the AER decides to use the RBA's NFC yields to estimate the benchmark debt yield, and if the RBA continues to only produce month-end estimates.

Interpolating monthly estimates

The RBA produces month-end estimates of NFC yields and margins for broad A and BBB credit ratings and tenors of 3, 5, 7 and 10 years. The Issues Paper outlines a method for producing daily estimates of the 10-year benchmark debt yield based on the RBA's month-end estimates[1].

In the absence of daily observations from the RBA, QTC considers the interpolation method to be a reasonable way of producing daily estimates of the benchmark debt yield. However, the worked example provided by the AER adds a semi-annual CGS margin to an annualised CGS

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[1] AER, *Return on debt: Choice of third party data service provider Issues Paper*, April 2014, Section 5.1

yield. This approach will not produce a correct estimate of the annualised benchmark debt yield and the return on debt.

The 'Notes' worksheet of the RBA's *Aggregate Measures of Australian Corporate Bond Spreads and Yields - F3* spreadsheet explains the compounding basis on which the NFC yields are expressed[2]:

> *'The credit spreads to Australian dollar swap rates reported in the table are weighted averages of the individual bonds estimated for each tenor (3, 5, 7 and 10 years). The 3-year spread is to the quarterly swap rate at that tenor, while spreads at other tenors are to the corresponding semiannual swap rates.*
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> *The spread to Australian Commonwealth Government securities (CGS) rates are calculated by adding to the credit spread to swap the corresponding swap to CGS spread for each target tenor (the quarterly swap rate for the 3 year tenor and the semiannual rate otherwise). Yields are calculated by adding the aggregate credit spread to swap to the corresponding swap rate at each target tenor.'*

As the RBA's margins to CGS are based on semi-annual yields for tenors longer than 3 years, the benchmark debt yield should be estimated by adding the interpolated semi-annual 10-year CGS margin to the semi-annual 10-year CGS yield and then annualising the total yield.

The AER provides estimates of the benchmark debt yield for the 10 business days to 13 December 2013[3]. These estimates are made by adding the interpolated semi-annual 10-year CGS margin to the annualised 10-year CGS yield. This understates the benchmark debt yield by about 10 basis points. The corrected benchmark debt yield estimates are outlined in Table 1.

TABLE 1: INTERPOLATION BASED ON SEMI-ANNUAL MARGINS AND CGS YIELDS

Date	Spread to CGS (semi %)	CGS yield (semi %)	Benchmark debt yield (semi %)	Benchmark debt yield (annual %)
2 Dec 2013	3.2194	4.2484	7.4678	7.6072
3 Dec 2013	3.2211	4.2837	7.5048	7.6456
4 Dec 2013	3.2229	4.2658	7.4887	7.6289
5 Dec 2013	3.2246	4.3542	7.5788	7.7224
6 Dec 2013	3.2263	4.3894	7.6157	7.7607
9 Dec 2013	3.2281	4.3302	7.5583	7.7011
10 Dec 2013	3.2298	4.3468	7.5766	7.7201
11 Dec 2013	3.2315	4.3039	7.5354	7.6774
12 Dec 2013	3.2333	4.2792	7.5125	7.6536
13 Dec 2013	3.2350	4.2809	7.5159	7.6571

The average annualised benchmark debt yield for the 10 business days to 13 December 2013 is 7.68 per cent, which is higher than the 7.58 per cent estimate from the AER's worked example.

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[2] http://www.rba.gov.au/statistics/tables
[3] AER Issues Paper – Attachment A – Return on debt Choice of data service provider – April 2014. http://www.aer.gov.au/node/18859

Choice of base interest rate

It is standard market practice for corporate debt to be priced and traded at a margin to the swap curve rather than the CGS curve. As such, the AER could consider using the 10-year swap yield rather than an interpolated 10-year CGS yield.

One advantage of using swap yields is that no interpolation is required to estimate the 10-year swap yield on a daily basis, as is the case for the 10-year CGS yield. The 10-year swap yield, which is published daily by AFMA, can be used to directly estimate the base interest rate to which the interpolated RBA margin to swap would be added.

Interpolate yields or spreads

In QTC's view, the interpolation method should only be applied to the credit margin rather than the total debt yield. As CGS and swap yields can be observed or estimated on a daily basis, there is no need to apply the interpolation method to this part of the total benchmark debt yield.

Interpolate using business days or calendar days

Interpolating based on the number of business days between the RBA's month-end estimates is preferable to using the number of calendar days. Using the number of calendar days requires additional steps and is unlikely to produce estimates that are significantly different from a business day-based interpolation.

To illustrate, the period from 3 June 2013 to 28 June 2013 contains 19 business days and 28 calendar days. The RBA's month-end margin to CGS estimates for 31 May 2013 and 28 June 2013 are 3.01 per cent and 3.49 per cent respectively, indicating a monthly change of +0.48 per cent. Interpolating based on the number of business days (calendar days) produces an average daily margin to CGS of 3.26 per cent (3.28 per cent)[4].

As interpolating based on the number of business days is a simpler approach and requires less steps, QTC considers this to be a reasonable basis for producing daily estimates of the benchmark debt yield.

Extrapolate a single estimate

The Issues Paper suggests that it may not be possible to use the proposed interpolation method if a service provider's averaging period ends intra-month, because the RBA's estimates are currently only made on a month-and basis.

This type of scenario will only result in a short delay between the end of the averaging period at the date when the final benchmark debt yield estimate will be known. It is unclear why this creates a problem from an annual pricing perspective. If it does, adding the most recent month-end margin to the average base rate during the averaging period would be preferred to using the most recent month-end total yield.

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[4] We have assumed that a calendar day-based interpolation would still only use the margin estimates that are produced for the business days in the averaging period. As a consequence, the margin estimate for a Monday would be three times larger than the margin estimate for Tuesday–Friday (in the absence of public holidays).