CEG Asia Pacific
234 George St
Sydney NSW 2000
Australia
www.ceg-ap.com

Memorandum

To:	Charlotte Coster – AusNet
From:	CEG – Asia Pacific
Date:	3 February 2016
Subject:	**Recent financial market conditions and the BVAL curve**

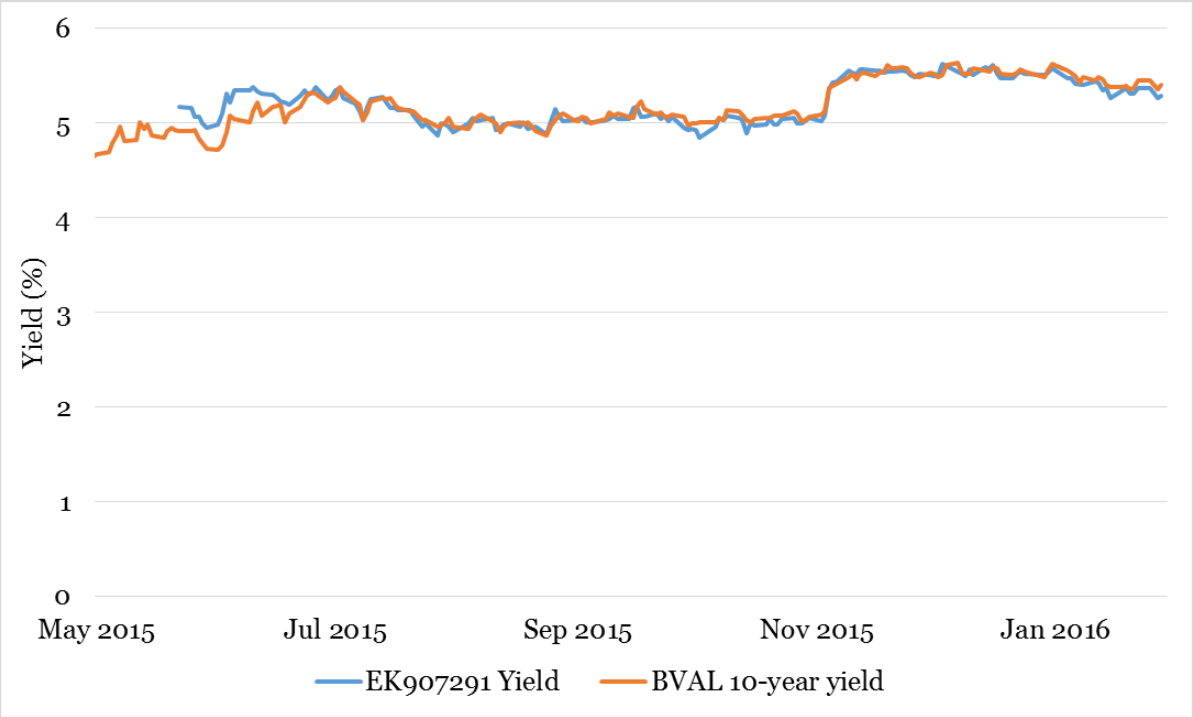
1 10 year BBB BVAL estimate is heavily dependent on the yield of a single bond

1. The bond sample used by Bloomberg to construct its BVAL curve has only one bond with more than 6.5 years to maturity. This is the Asciano bond (EK9072910) which has 9.3 years to maturity in January 2010. The next longest bond is a QANTAS bond (EK269091) with 6.3 years to maturity.

2. As set out in a recent report,[1] the Asciano bond appears to have a disproportionate influence on the BVAL estimate of the 10-year spread to swap. We have updated Figure 4 from that report (see Figure 1 below) and our conclusions remain unchanged.

[1] CEG, Criteria for assessing fair value curves, January 2016, see section 4.4.1, pp. 33-36.

Figure 1: Yields of the Asciano bond and the BVAL curve at 10 years (updated version of Figure 4 from our January 2016 report)



Source: Bloomberg.

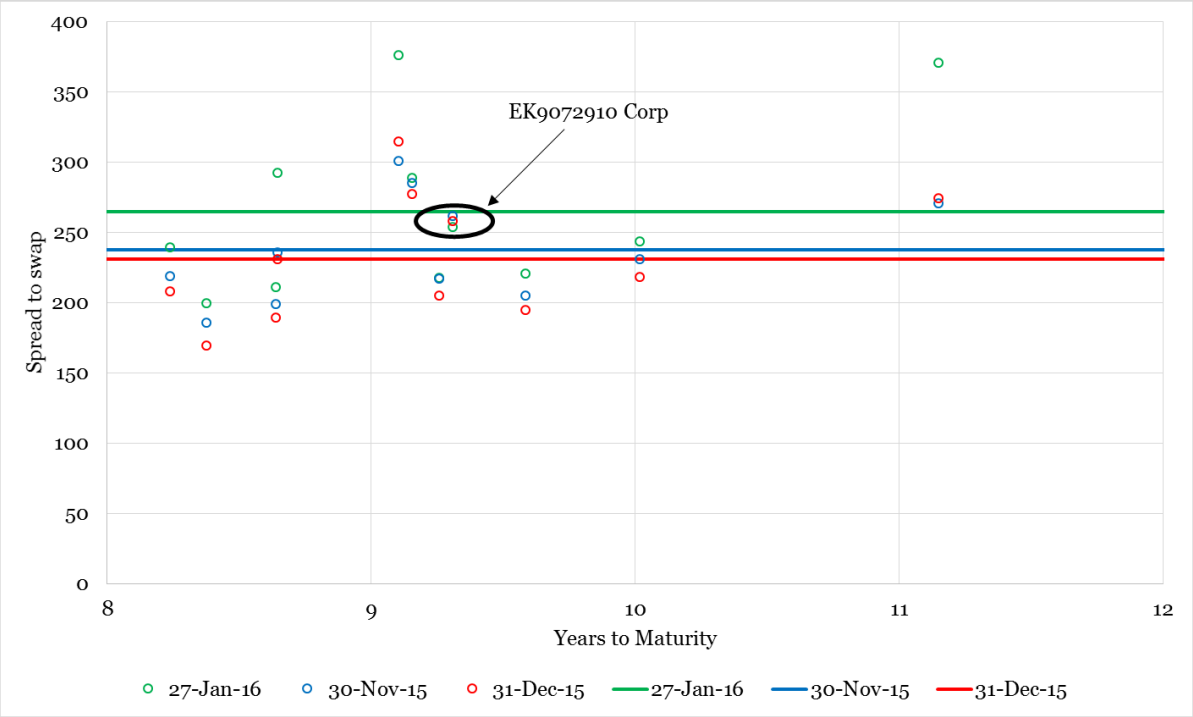
3. This is highly problematic since the resulting BVAL estimate of the cost of debt is likely to be influenced by factors specific to Asciano as opposed to overall changes in the benchmark return on debt.

4. The BVAL bond selection criteria already results in a very small sample and one that, because it excludes bonds issued in foreign currency, does not represent the benchmark debt issuance practices of a BEE. A more robust estimate of debt market conditions can be had by looking at a sample of bonds that has more bonds with long residual tenors. For the purpose of this memo we examine the RBA sample.

2 Movements in BBB bond spreads and the BBB BVAL curve

5. The 10-year BVAL spread to swap estimate has remained largely stable despite a general rise in corporate bond yields over the last three months. A general measure of changes in debt market conditions can be had by examining a large sample of bonds with the residual tenors of interest. For the purpose of this memo we examine the RBA sample.

Figure 2: Bonds in the RBA sample with 8-12 year residual maturities



Source: Bloomberg, RBA, CEG analysis

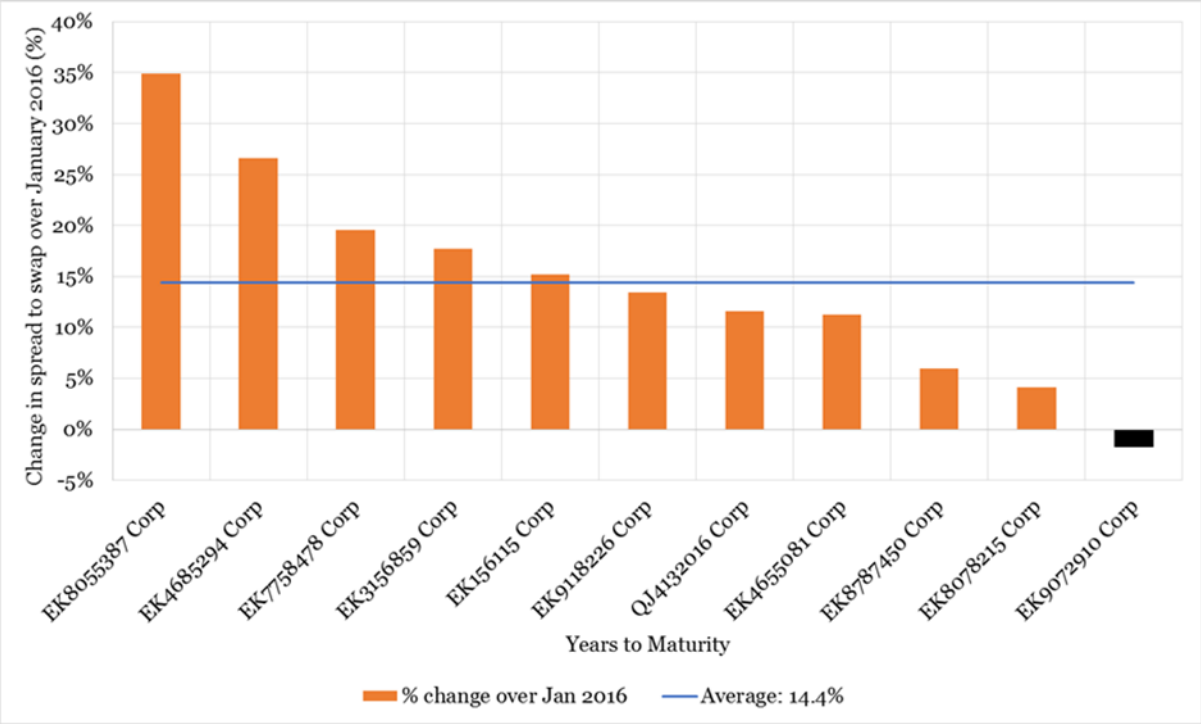
6. The eleven bonds in the RBA sample with 8-12 year residual maturities are shown in Figure 2.[2] With the exception of the Asciano bond, there was an increase in spreads to swap rates over the month of January 2016 (green dots vs red dots), which should be expected to result in an increase in the estimate of the benchmark 10-year spread to swap. The outlier observation in this regard is the Asciano bond indicated in the black oval. This is the only bond that decreases in spread to swap from 31 December 2015 to 27 January 2016.

7. The simple average spreads of these 11 bonds as at 30 November 2015, 31 December 2015, and 27 January 2016 are 237.17, 230.92, and 264.78 respectively. This is illustrated in the chart by a constant line at each of these values.

8. A similar observation can be made based on the percentage change in spread to swap for the same 11 bonds, over the month of January 2016. This is shown in Figure 3, where it can be seen that only the Asciano bond (highlighted in black) exhibits a decrease in spread to swap over the month, while the average change for all 11 bonds is 14.4% in percentage terms (or 33.9bp). This compares to an increase in the BVAL 10 year spread to swap of just 1.5% (or 3.7bp).

[2] All three sets of observations are plotted according to their residual tenors as at 27 January 2016 for ease of comparison.

Figure 3: Percentage change in spread to swap – 31 December to 27 January 2016*



Source: Bloomberg, CEG analysis.

9. While the RBA curve is not yet published we expect its 31 January estimate will increase materially relative to its 31 December estimate.[3] This is because, unlike the BVAL curve, its estimate is based on a weighted average of the spreads to swap of several bonds, with the Asciano bond only having an individual weight of approximately 4%. The RBA curve is therefore able to accurately capture the recent general increase in bond yield observed in financial markets as compared to the BVAL curve, which appears to be heavily influenced by a single bond that happened to exhibit a decrease in spread to swap over the month.

3 Conclusion

10. The BVAL bond selection criteria results in a sample containing only a single bond – issued by Asciano – with a residual maturity greater than 6.3 years. Moreover, the Bloomberg curve fitting methodology, while not transparent, clearly results in this bond having a disproportionate impact on the 10-year spread to swap estimate.

[3] While the RBA's weighted average approach based on the Gaussian kernel and issuing amounts will result in different numbers from the simple averages that we calculated, we can expect the RBA's 31 January 2015 estimate to be materially higher than its 31 December 2015 estimate, since bonds with residual maturities between 8 and 10 years will collectively have a very high weight on the 10-year estimate.

Because this Asciano bond did not exhibit any increase in spread to swap over January 2016, the resulting 10-year spread to swap estimate also did not increase over this period.

11. On the other hand, a larger sample, such as the RBA's sample selection criteria, results in a larger number of bonds with longer residual maturities. This, means that, provided a sensible curve fitting technique is applied (which includes the RBA's use of a Gaussian kernel), the 10-year spread to swap estimate will not be unduly influenced by the spread to swap of a single bond, and is thus better able to capture the overall change in market conditions.