

Fiera Capital's CIA Accounting Discount Curve

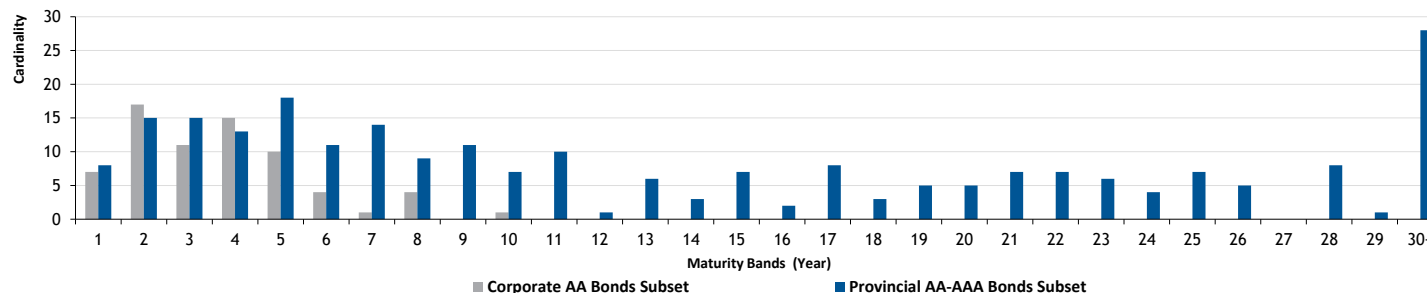
Statistics on the Provincial AA-AAA and Corporate AA Subsets

Production Date : 2020-07-31

Total # of Bonds in the Provincial AA-AAA Subset 244
Total # of Bonds in the Corporate AA Subset 70

| | Corporate Bonds | | | Provincial Bonds | | |
|----------------------------------|-----------------|---------------------------|--|-------------------------------|---------------------------|--|
| | Number of Bonds | Average Yield-to-Maturity | Average Spread over Canada Yield Curve (bps) | Number of Bonds | Average Yield-to-Maturity | Average Spread over Canada Yield Curve (bps) |
| Maturity Band 1 to 4.5 years | 50 | 0.888 | 63.47 | 51 | 0.517 | 26.35 |
| Maturity Band 4.5 to 10.5 years | 20 | 1.397 | 106.92 (A) | 70 | 1.024 | 66.48 (B) |
| Maturity Band 10.5 to 15.5 years | 0 | Not available | Not available | 27 | 1.547 | 97.20 |
| Maturity Band 15.5 to 20.5 years | 0 | Not available | Not available | 23 | 1.817 | 107.29 |
| Maturity Band 20.5 to 25.5 years | 0 | Not available | Not available | 31 | 1.914 | 106.92 |
| Maturity Band 25.5 to 30.5 years | 0 | Not available | Not available | 21 | 1.927 | 102.20 |
| Maturity Band 30.5 and over | 0 | Not available | Not available | 21 | 1.919 | 100.17 |
| | | | | Average Corporate Spread (A) | | 106.92 |
| | | | | Average Provincial Spread (B) | | 66.48 |
| | | | | Spread Ratio (R) | | 160.8% |

Distribution of the Provincial and Corporate Bonds Subsets by Annual Maturity Bands



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Due to special market circumstances, the synthetic portion of the Corporate AA curve based on the Spread Ratio proved to be inconsistent with actual bond yields observed in the market on July 31, 2020, such as the Corporate A-rated bond yields. As such, adjustments were required for the July 31, 2020, CIA Accounting Discount Curve.

The spot rates for maturities up to 10.5 years have been determined in accordance with the usual methodology, as per the CIA's Educational Note. Exceptionally for July 31, 2020, for maturities greater than 10.5 years, the spot rates were adjusted to make them converge to the 30-year spot rate of an A-rated corporate bonds curve. The universe of bonds used to construct the A-rated corporate bonds curve excludes quasi-governmental entities and is based on the average-rating methodology (as opposed to the best-rating methodology, which is used to select the AA-rated corporate bonds universe for the CIA Accounting Discount Curve). The resulting A-rated corporate bond universe consist of 336 bonds with minimum issue size over \$100M.

The CIA Accounting Discount Curve was then adjusted from the 10.5-year spot rate (determined in accordance with the usual methodology) to the 30-year spot rate of this A-rated corporate bonds curve using the same parametric equation that is typically used (Nelson-Siegel-Svensson). Note that the 30-year spot rate under this special methodology is 0.04% lower than the usual methodology. Note that for information purposes, the Spread Ratio in the table above is presented using the usual methodology and does not reflect the adjustments that were exceptionally applied in the long term.

Effective May 29, 2020, the provincial bond subset used to construct the CIA Accounting Discount Curve excludes two 'ultra-long' bonds that mature in roughly 100 years as the pricing of these bonds was deemed unreliable (given the apparent lack of liquidity).