

Air Canada (TSX: AC)

Credit Risk Analysis

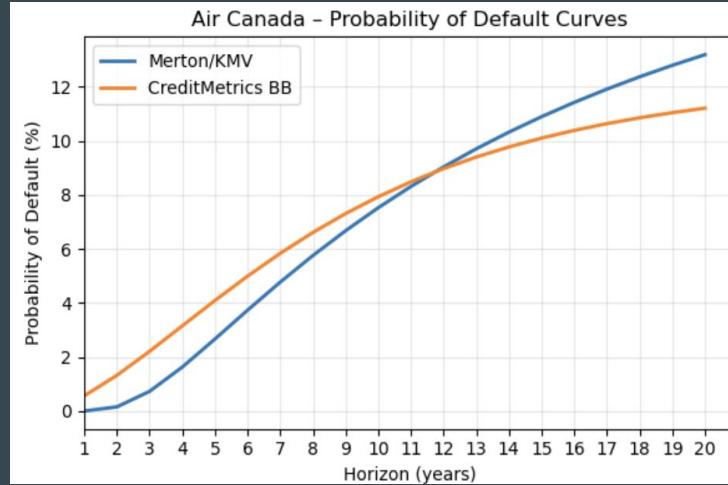
Merton/KMV Model

AC Parameters

Equity Value (\$)	4.79B CAD ¹
Stock Volatility (σ_S)	35.22% ¹
Market Debt (K)	3.67B CAD ²
Asset Value (V)	8.35B CAD ³
Asset Volatility (σ_V)	20.21% ³
Interest Rate (r)	3% ^{4,5}
Leverage Ratio (K/V)	43.95%

Assumptions

- Since the price of AC's corporate bonds are not publicly available, we take Market Debt to be the principal value of AC's issued corporate bonds as of 2025-04-23 (i.e. we assume they trade at par). USD was converted to CAD using the FX rate as of 2025-04-23.
- We employ a Merton-Black-Scholes model, $S = V N(d_1) - Ke^{-rt} N(d_2)$; $\sigma_S S = \sigma_V V N(d_1)$, and employ numerical methods to solve for (V, σ_V) simultaneously.
- We assume a constant risk-free rate of 3%, a value within the BoC's benchmark bond yields across all time frames (2-10+ years).



Assumptions

8 Markov States (AAA → D)

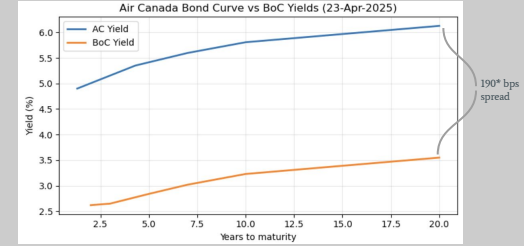
Recovery Rate: 58% (Average based on S&P Data on Senior Secured Bonds; the types of bonds AC issued).

CreditMetrics Model

1-Year Transition Matrix ⁶

	AAA	AA	A	BBB	BB	B	CCC/C	D
AAA	87.28%	8.92%	0.51%	0.03%	0.10%	0.03%	0.05%	0.00%
AA	0.45%	87.74%	7.50%	0.44%	0.05%	0.06%	0.02%	0.02%
A	0.02%	1.48%	89.42%	4.64%	0.23%	0.10%	0.01%	0.05%
BBB	0.00%	0.07%	3.05%	87.33%	3.21%	0.40%	0.09%	0.14%
BB	0.01%	0.02%	0.10%	4.44%	78.89%	6.25%	0.50%	0.56%
B	0.00%	0.02%	0.06%	0.14%	4.47%	75.18%	4.79%	2.93%
CCC/C	0.00%	0.00%	0.07%	0.13%	0.40%	13.18%	45.07%	26.12%
D	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%

AC vs. Risk-free Yields



Bond (ISIN)	Coupon Rate	Currency	Amount	Maturity Date
CA008911BL23	4.625%	CAD	2Bn	15-Aug-2029
USC01026BC38	3.875%	USD	1.2Bn	15-Aug-2026

^{*}Since AC's longest quoted bond is ~4 years into the future, we held its 4 year spread over the BoC curve constant and extrapolated out to 20 years.

Data

- Historical stock data from 2021-04-23 to 2025-04-23 from Yahoo Finance was used to compute S (as of 2025-04-23) and σ_S .
- BoC yields were taken to be the values of the benchmarks listed on the BoC's website, and the 3% risk-free rate was taken to be a constant within the specified range.
- The 1-Year Transition Matrix used was taken from the S&P 2024 Annual Rating Transition Study (Table 33). AC was taken to be of BB rating as per the S&P's most recent rating.