



# BRE GRADING

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## WISERFUNDING'S DEFAULT Z-SCORE: BRE MAPPING

### Bond Rating equivalent

The concept of Bond Rating Equivalent (BRE) was introduced by Altman in his study "Measuring Corporate Bond Mortality and Performance" published in the Journal of Finance in 1992.

We have leveraged on this approach to transform our SME Z-Score from a relative measure of risk different for each portfolio it is applied on, to a standardized risk metric associated to the well-known Standard and Poor's (S&P) rating scale. The benefits of developing a BRE are mainly associated with the ability to provide investors with a commonly accepted language of credit that will sound more familiar than a simple scoring number

To build the BRE, we have used a sample of more than 100,000 S&P rated corporate bonds from 1971 to 2022. We segmented this sample by country and industry sector to replicate the segmentation used by our SME Z-Score models and we ran our proprietary models on all companies included in each of the subsamples.

Once the SME Z-Score is calculated for each company, we assigned it to an S&P rating to derive the mapping of our SME Z-Score distribution to the different rating classes by country and industry sector. An example of the final mapping is provided below.

The Z Score is a number between 0 and 1000 that summarises the risk profile of companies: The lower the number, the riskier the company.

This represents a point-in-time, independent and objective assessment of the credit risk of a counter party and it is grouped into 5 areas; outstanding, low risk, medium risk, high risk, and distressed.

- Outstanding 701+
- Low risk 451-700
- Mid risk 251-450
- High risk 101-250
- Distressed 0-100

# WISERFUNDING'S DEFAULT Z-SCORE: BRE MAPPING

Z-Score	BRE Grade Description	BRE Grade
N/A	Not rated.	N/A
0-16	Has defaulted on obligations or Wiserfunding believes that it will generally default on most or all obligations.	D
17-50	Significant probability of default in the near future.	CC-
51-90		CC
91-120		CC+
121-170	Moderate probability of default in the near future.	CCC-
171-210	Significant risk of default in case of adverse economic conditions.	CCC
211-240	Low profitability, low liquidity and debt-heavy. Moderate risk of default in case of adverse economic conditions.	CCC+
241-270	Low profitability, low liquidity, with debt –heavy capital structure.	B-
271-310	Less profitable, lower liquidity and higher proportion of debt. More likely to face difficulty in meeting financial obligations in case of adverse economic conditions.	B
311-326		B+
327-340		BB-
341-355		BB
356-365	Less profitable, decreased liquidity or increased proportion of debt. More susceptible to adverse economic conditions.	BB+
366-430		BBB-
431-520	Slightly less profitable firms, decreased liquidity or increased proportion of debt.	BBB
521-630	Profitable, liquid and equity-heavy, but more susceptible to adverse economic conditions.	BBB+
631-750	Strong, profitable firms with sufficient liquidity and equity-heavy capital structure.	A-
751-800		A
801-900		A+
901-950		AA-
951-967		AA