

An Empirical Study of Structural Credit Risk Models

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Abstract

In the industry of finance, the ability to foresee a potential bankruptcy is an invaluable asset to a financial planner. Analysts have long been searching for a way to quantify default risk of a firm. Merton (1974) develops the first structural credit risk model which provides a basis for measuring this risk. A company called KMV later extends his approach into what is now known as the KMV model. Zhou (1997) proposes a different model to measure this type of credit risk, which is also evolved from this approach. Theoretically both models appear to be plausible, however both models have computational constraints when applied to real world situations. The main problem is to solve for the unknown variables or parameters in two model. In this project we try to figure out and simplify the methods of finding those quantities. Based on empirical results from our database, we compare the two models to determine which one captures bankruptcy of a firm better in reality.