

Efficiency comparison of Moody's KMV model and Altman's Z-score model predicting corporate default with empirical U.S. data

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Abstract: After a revolution in credit risk measurement has taken place in 1990, credit ratings have been an essential part of global financial market for decades. In this article, we talk about a comparative analysis of effectiveness of KMV model and Z-score model in predicting corporate default in U.S. Market. We use Moody's KMV model and Altman's Z-score model to predict and estimate the default probability. We use Logistic Regression method to test the predicting power of the two models. To do all of these, we try to solve two main questions in this paper: first, how accurate the Moody's KMV model and Altman's Z-score model can predict the default probability; second, which one is more effective in default probability prediction between KMV model and Z-score model. Following all those questions in our mind, we find the answers. In order to avoid the noises and make more accurate, we get all data winsorized. We find that Moody's KMV model performs better than Altman's Z-score performs in predicting corporate failures in U.S. financial market by testing the performance of Logit-KMV and Logit-Z. We also construct the cumulative accuracy profiles (CAP) and the receiver operating characteristic (ROC) to test the two models performs. We got the same result. By creating a control sample to make the bankrupt sample and non-bankrupt sample more comparable, the testing result is same.