

ABSTRACT

Previous research had extensively used financial ratios and market variables to build their model of financial distress Prediction. Altman's Z-Score has become the most commonly used financial ratio for identify bankruptcy, particularly in academic studies. Firm size, market cap, total return, return volatility, beta, distance to default, and probability to default are market-based variables that can forecast financial distress. The previous study also predicted bankruptcy using several well-known machine learning algorithms. However, no previous research attempted to combine these seven market-based variables as comprehensive market variables with Altman variables using the stacking ensemble learning method to predict bankruptcy. Prior studies believe that the stacking ensemble learning method can improve the Prediction result more than a single classifier.

This study aims to use the stacking ensemble learning method in conjunction with Logistic Regression to predict financial distress in Taiwanese companies by combining 5 Altman variables and 7 comprehensive market-based variables as predictors. The result shows that adding the 7 comprehensive market-based variables to 5 Altman variables improves the performance of financial distress Prediction than only using 5 Altman variables. Also, this research found a strong connection between 7 comprehensive market-based variables and 5 Altman variables. The findings of this study will explain which comprehensive market-based variables influence the Prediction outcome. These findings will also aid public investment in lending decisions by providing information on financial ratios and market variables.

Keywords Altman Variables, Financial Distress Prediction, Stacking Ensemble Learning, market-based variables