Competition between Regression Technique and Statistical Learning Models for Predicting Credit Risk Management

Authors : Chokri Slim

Abstract : The objective of this research is attempting to respond to this question: Is there a significant difference between the regression model and statistical learning models in predicting credit risk management? A Multiple Linear Regression (MLR) model was compared with neural networks including Multi-Layer Perceptron (MLP), and a Support vector regression (SVR). The population of this study includes 50 listed Banks in Tunis Stock Exchange (TSE) market from 2000 to 2016. Firstly, we show the factors that have significant effect on the quality of loan portfolios of banks in Tunisia. Secondly, it attempts to establish that the systematic use of objective techniques and methods designed to apprehend and assess risk when considering applications for granting credit, has a positive effect on the quality of loan portfolios of banks and their future collectability. Finally, we will try to show that the bank governance has an impact on the choice of methods and techniques for analyzing and measuring the risks inherent in the banking business, including the risk of non-repayment. The results of empirical tests confirm our claims.

Keywords : credit risk management, multiple linear regression, principal components analysis, artificial neural networks, support vector machines

Conference Title : ICMSEEM 2019 : International Conference on Modeling and Simulation in Engineering, Economics and Management

Conference Location : Vienna, Austria

Conference Dates : December 26-27, 2019