Financial distress prediction: The case of French small and medium firms

Nada Mselmi (University of Orleans, France)

Financial distress prediction is a central issue in empirical finance that has drawn a lot of research interests in the literature. This paper aims to predict the financial distress of French small and medium firms using Logit model, Artificial Neural Networks and Support Vector Machine techniques. We used a sample of 212 firms, among them 106 firms are financially distressed. With reference to the literature, we used a battery of financial ratios that showed their importance in the prediction of financial distress. Subsequently, we used the stepwise regression to select the financial variables that discriminate the most between distressed and non-distressed firms and help to identify the profile of French distressed firms one and two years before financial distress. Empirical results indicate that one year before financial distress, Support Vector Machine is the best classifier with an overall accuracy of 88.57%. Two years before financial distress, Support Vector Machine and Logit model outperform Artificial Neural Networks with an overall accuracy of 92.86%. Distressed firms are found to be smaller, more leveraged and with lower repayment capacity. Moreover, they have lower liquidity, profitability, and solvency ratios. Besides the academic research contribution, our findings can be useful for managers, investors, and creditors.