

**A Research on predictability of the All Share Price Index of the
Banking sector of Colombo Stock Exchange using Fundamental
analysis ratios and Macro-economic variables**

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A Dissertation Submitted to Fulfill the Requirement for
MSc. Business Analytics

Department of Computing
Informtics Institute of Technology, Sri Lanka in Collaboration with
Robert Gorden University UK.

2021

Abstract

This study empirically examines whether the Price-Earnings ratio, Price-Book value ratio, Dividend yield, Interest rate, Exchange rate and Inflation rate is able to explain the all share index of the banking sector of Colombo stock exchange. Subsequently the study investigates the predictability of the ASI – banking sector using machine learning regression models. The research examines the problem of does the selected fundamental analysis ratios and macroeconomic variables explain the movement or closing value of the all share index of banking sector of CSE? Further what is the best machine learning model to be used to predict the ASI – Banking sector index with relation to the selected variables. All the data that is collected are secondary and they were collected from the CSE data library from 5th April 2016 to 31st December 2020. The significance of the variables were assessed and then the significant variables were used to build the machine learning models to perform the predictive analysis. Overall the results of the analysis showed that PER, PBV, exchange rate and inflation rate strong correlation while interest rate and dividend yield showed weak correlation. Further, the findings of the study indicated that all the variables selected are significant with relation to the ASI – Banking sector closing values. Moreover, the according to the predictive analysis performed subsequently, Random Forest Regression showed the least values for MSE, RMSE and MAE while showing the highest value for R squared. In the current situation where the many counters and sectors in the market has appreciated with relation to the overall ASPI, and banking sector lagging behind, implied that there may be potential for the counters in the banking sector to appreciate largely. On a practical sense, this may benefit CSE investors in wealth creation. Hence, it is suggested to carry out more studies in this area.

Key words: Banking sector, Colombo stock exchange, machine learning, PER, PBV, Dividend yield, interest rate, exchange rate, inflation rate, macroeconomic factors, fundamental analysis ratios