

IMPACT OF ELECTIONS ON PREDICTING STOCK MARKET CLOSING PRICES OF SRI LANKA

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Accurate prediction of closing stock market prices during elections is important for investors. This study examined how the national (presidential and parliamentary elections) and provincial council elections influenced the prediction of the stock market closing price performance of the Colombo Stock Exchange (CSE) in Sri Lanka from 2000 to 2021. Multiple Linear Regression (MLR) and Long Short-Term Memory (LSTM) neural networks were used for this purpose. Predictor variables included the stock market's open, high, and low prices and volume of shares, whereas the closing stock price was considered the response variable. A binary variable named "election influence" was also introduced as a predictor variable under seven sensitivity intervals before and after ½, 1, 2, 3, 4, 5 and 6 months from the respective election's date. After being tested for multicollinearity, high price and election influence were considered in all the models' deployments. The accuracy of MLR and LSTM networks was evaluated with and without election influence using mean absolute percentage error (MAPE). Ten national (presidential = 4 and parliamentary = 6) elections and five provincial council elections were considered. MLR and LSTM showed the highest accuracy levels of 97.01% and 87.32% for two months post and prior to the national election compared to MLR and LSTM without election (96.98%, 86.66%). However, the highest accuracy for ½ months before and after the provincial council election was observed in MLR (97.00%) and LSTM (87.09%) compared to MLR (96.98%) and LSTM (86.66%) without election influence. In conclusion, 2 and ½ months before and after the national and provincial council elections, the election influence could be a statistically significant predictor of closing stock prices in Sri Lanka under both MLR and LSTM. This research would emphasize the significance of election aspects in future predictions.

Keywords: Colombo Stock Exchange, Elections, Long Short-Term Memory, Multiple Linear Regression