Modeling Stock Returns and Trading Volume of Colombo Stock Exchange

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Abstract

The main objective of our study was to test causal relationship between returns and trading volumes in the Sri Lankan share market and to model the relationship. If causality did not exist it was intended to test some other time series techniques for forecasting returns. Further, it was intended to identify patterns of trading volume. Results of multivariate tests reveal that there is no causal relationship between market returns and trading volumes. Therefore, time series techniques were tested on returns and trading volume. Ljung-Box Q (LBQ) statistic reveals that stock returns are auto-correlated and stationary while trading volumes are auto-correlated but not stationary. It was concluded that ARIMA (0, 0, 1) is the best model for forecasting stock returns and that the Quadratic Trend model is the best for forecasting trading volume. Most of the early studies have provided evidence of a causal relation between stock returns and trading volume. However, the results of this study were contradictory. It is recommended that the applicability of Sri Lankan share market indices be tested as it may be a cause of the contradictory results. Further researchers suggest testing return and trading volume by GARCH/ ARCH models, Artificial Neural networks and Non-linear models such as the Malthus model, Gomperts model, Alometric model, etc.

Key words: Causality, Auto-correlation, Stationary, Multivariate, Trend.

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