UNIVARIATE TIME SERIES ANALYSIS OF DAILY GOLD PRICES IN SRI LANKA: AN ARIMA APPROACH

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Gold has long been considered a symbol of wealth and a reliable store of value across cultures. In Sri Lanka, gold holds significant cultural and economic importance. It is widely used in jewellery, especially for weddings and other important life events, and is also seen as a secure investment option. The price of gold in the country is influenced by global market trends, economic conditions, and local demand, making it a critical indicator for economic forecasting and financial planning. The purpose of this study, was to build a suitable univariate time series model to predict the price of gold in Sri Lanka. The daily gold prices published by the Central Bank of Sri Lanka from 1st January 2020 to 1st July 2024 were used for this study. The original data was not stationary and but the first difference in the price of gold was stationary. ACF plot was used to identify the order of the MA component and PACF plot was used to determine the order of the AR component. Considering this fact, ARIMA models were fitted and the minimum AIC, BIC value was used to compare the models and determine which model was identified as the best fit for the data. The ARIMA (2,1,2) model showed the lowest AIC value was the suitable model for forecasting the price of gold in Sri Lanka. The MAPE value of this model was 0.8434. The estimated ARIMA model is important to understand the trends of gold price in Sri Lanka and to check future gold prices.

***Key words**: AIC, ARIMA, Gold price, Stationarity.*