عنوان مقاله:

Modelling Petroleum Prices in Tanzania: A Comparative Analysis between ARIMA and Holt's Method

محل انتشار:

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خلاصه مقاله:

Petroleum is one of the vital sources of energy for economic activities and the most traded commodity worldwide. It is crucial to industry and civilization and as it meets a substantial portion of the world's energy requirements, it has a big impact on global politics and intergovernmental relations. Given the importance of oil to the economy, projecting crude prices has received a lot of focus in the literature. The primary goal of this research is to assess how well Holt's technique and Autoregressive Integrated Moving Average (ARIMA) forecast the petroleum prices in Tanzania. To determine whether the model is more reliable at predicting the prices of petrol in Tanzania, a comparative analysis was perfumed. Monthly data on petroleum prices were extracted from the bank of Tanzania website between February, ۲۰۰۴ to May, ۲۰۲۳. The mean absolute percentage error (MAPE), mean absolute error (MAE), and mean squared error (MSE) were used to evaluate the predictive ability of the ARIMA and double exponential smoothing models. The findings indicated that ARIMA (۱,۱,۱) outperformed double exponential smoothing model for forecasting the prices of petrol in Tanzania. The result of this study will guide policy makers and investors in the energy sector to make wise decisions through accurate prediction of the price of petroleum in the future.

کلمات کلیدی:
ARIMA, Holt's, model, Petroleum, Smoothing

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