ABSTRACT

Investment is part of a fund allocation strategy to optimize *return*s in the future. Investment is not something foreign for most people in seeking profits (*return*s), especially in the banking sector, as it is more closely related to economic conditions and supported by strong fundamentals. PT Bank Rakyat Indonesia Tbk. (BBRI) is often an object of analysis due to its high liquidity and strategic role in the national financial system. The dynamic and uncertain movement of BBRI's stock price can lead to heteroscedasticity symptoms in its *return* data. The ARIMA (Autoregressive Integrated Moving Average) method is often used in forecasting based on historical data. However in most case of *return* data it is often found volatility to be fluctuating, resulting in non-constant residual variance (heteroscedasticity). ARIMA is not reliable enough in handling variance fluctuations. One model that is capable of dealing with non-constant residual variance is the GARCH (Generalized Autoregressive Conditional Heteroscedasticity) model due to its ability to model volatility that changes over time (time-varying). This study applies a combined ARIMA-GARCH model, estimated using the maximum likelihood estimation approach. This study covers the in-sample period from January 1 2021 to January 1 2025, and an out-sample period for 19 days from January 3 2025 to February 1 2025. The analysis shows that the best model is ARMA([1,4],[1,4])-GARCH(1,1) with the least AIC score valued at -5.3884. The sMAPE (Symmetric Mean Absolute Percentage Error) obtained for the forecast of return is 1.5511 whereas for the return volatility is 0.009054.

Keywords: BBRI Stocks, Forecasting, Volatility, *Return*, ARIMA, GARCH