ABSTRACT

ANALYSIS OF THE THRESHOLD GENERALIZED AUTOREGRESSIVE CONDITIONAL HETEROSCEDASTIC (TGARCH) MODEL FOR FORECASTING THE STOCK PRICES OF *BANK RAKYAT INDONESIA* (BRI) PERSERO

BY

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Stock prices are a type of data with high volatility, which causes heteroscedasticity effects. To forecast a data with such high volatility, using the Box-Jenkins model or the ARCH and GARCH models are not viable because they are unable to address the asymmetric effects. Therefore, in this research, we uses the TGARCH model on the stock price data with high volatility.

The research showed that the best model for the stock price data of *Bank Rakyat Indonesia* (BRI) Persero is the TGARCH(1,0,1) model, with the equation of mean $Y_t = 0.0002 + 0.0324e_{t-1} + e_t$, and the equation of variance $\sigma_t^2 = (0.0002 - e_t^2) + \sum_1^q 0.0324(e_{t-j}^2 + e_{t-j}^{-2})$.

Key words: stock prices, volatility, asymmetric effects, TGARCH model

ABSTRAK

ANALISIS MODEL *THRESHOLD GENERALIZED AUTOREGRESSIVE CONDITIONAL HETEROSCEDASTIC* (TGARCH) PADA PERAMALAN HARGA SAHAM BANK RAKYAT INDONESIA (BRI) PERSERO

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Harga saham adalah jenis data dengan volatilitas tinggi, yang menyebabkan adanya pengaruh heteroskedastitas. Untuk meramalkan data dengan voltilitas tinggi, model Box-Jenkins ataupun model ARCH dan GARCH tidak dapat digunakan karena tidak mampu mengatasi efek asimetris. Oleh karena itu, penelitian ini menggunakan model TGARCH pada data harga saham yang memiliki volatilitas tinggi.

Hasil penelitian menunjukkan bahwa model terbaik dari data harga saham Bank Rakyat Indonesia (BRI) Persero adalah model TGARCH(1,0,1) dengan persamaan rata-rata $Y_t = 0.0002 + 0.0324 e_{t-1} + e_t$, dan persamaan ragam $\sigma_t^2 = (0.0002 - e_t^2) + \sum_1^q 0.0324(e_{t-j}^2 + e_{t-j}^{-2})$.

Kata kunci: harga saham, volatilitas, efek asimetris, model TGARCH