ABSTRAK

Penelitian ini dilatar belakangi oleh kondisi perekonomian Indonesia yang sedang tidak stabil sejak pandemi Covid-19 mewabah, berdampak pada semakin tingginya tingkat ketidakpastian pengembalian saham dan risiko yang dihadapi oleh investor. Sehingga, perlunya membandingkan model volatilitas dan *Value at Risk* sebelum Covid-19 dan semasa Covid-19 untuk membandingkan volatilitas dan potensi risiko investasi sebelum dan semasa Covid-19.

Penelitian ini bertujuan untuk: (1) menganalisis volatilitas *return* saham LQ45 dan volatilitas *return* saham Jakarta Islamic Index pada periode sebelum pandemi Covid-19 dan semasa pandemi Covid-19 dengan menggunakan model *Generalized Autoregressive Conditional Heteroscedasticity* (GARCH); (2) menganalisis risiko saham LQ45 dan volatilitas *return* saham JII pada periode sebelum pandemi Covid-19 dan semasa pandemi Covid-19 dengan *Value at Risk*.

Pendekatan penelitian ini adalah kuantitatif. Jenis penelitian yang digunakan adalah deskriptif. Populasi dalam penelitian ini terbagi menjadi dua, sebelum Covid-19 sebanyak 4364 dan semasa Covid-19 sebanyak 3668 data harian harga saham LQ45 dan Jakarta Islamic Index, untuk mendapatkan data dengan teknik *purposive sampling*. Teknik pengumpulan data yang digunakan adalah observasi dan dokumentasi. Data penelitian ini diolah menggunakan alat analisis Eviews 12 dan RStudio dengan teknik analisis data yang digunakan yaitu *Generalized Autoregressive Conditional Heteroscedasticity* (GARCH). Adapun langkah model GARCH adalah uji stasioneritas, uji *correlogram*, prosedur AR, MA, ARMA/ARIMA, uji ARCH *effect*-LM, model ARCH/GARCH, penilaian *Value at Risk*.

Hasil penelitian menunjukkan bahwa seluruh indeks saham dengan periode berbeda yang digunakan, yaitu RJIIB, RJIIA, RLQ45B, RLQ45A stasioner pada *level*, dari pengamatan plot ACF dan PACF dihasilkan model peramalan ARMA terbaik, yaitu RJIIB ARMA (1,0,0), RJIIA ARMA(2,0,2), RLQ45B ARMA (1,0,0) dan RLQ45A ARMA (2,0,3). Seluruh variabel memiliki ARCH *Effect* (heterokedastisitas) yang telah diuji oleh ARCH Effect-LM. Kemudian, didapatkan model GARCH terbaik dari *return* indeks saham, adapun model GARCH terbaik yang didapatkan RJIIB GARCH(2,3), RJIIA GARCH(2,1), RLQ45B GARCH(2,1) dan RLQ45A GARCH(1,1). Hasil model GARCH menunjukkan terdapat perbedaan volatilitas indeks saham JII dan LQ45 periode sebelum Covid-19 dan semasa Covid-19, di mana volatilitas semasa Covid-19 lebih tinggi dibandingkan sebelum Covid-19. Hasil *value at risk* yang didapat menunjukkan nilai VaR tertinggi ada pada *return* saham Jakarta Islamic Index semasa Covid-19.

Kata kunci: *return*, volatilitas, *Value at Risk*, GARCH

ABSTRACT

This research is backgrounded by the unstable condition of the Indonesian economy since the Covid-19 pandemic outbreak, resulting in a higher level of uncertainty in stock returns and risks faced by investors. Thus, it is necessary to compare volatility and Value at Risk models before Covid-19 and during Covid-19 to compare volatility and potential investment risks before and during Covid-19.

This study aims to: (1) analyze the volatility of LQ45 stock returns and the volatility of jakarta Islamic Index stock returns in the period before the Covid-19 pandemic and during the Covid-19 pandemic using the Generalized Autoregressive Conditional Heteroscedasticity (GARCH) model; (2) analyze the risk of LQ45 shares and the volatility of JII stock returns in the period before the Covid-19 pandemic and during the Covid-19 pandemic with Value at Risk.

This research approach is quantitative. The type of research used is descriptive. The population in this study was divided into two, before Covid-19 as many as 4364 and during Covid-19 as many as 3668 daily data on the stock price of LQ45 and the Jakarta Islamic Index, to obtain data with purposive sampling techniques. The data collection techniques used are observation and documentation. The data of this study was processed using the analysis tools Eviews 12 and RStudio with the data analysis technique used, namely Generalized Autoregressive Conditional Heteroscedasticity (GARCH). The garch model steps are stationaryity test, correlogram test, AR procedure, MA, ARMA / ARIMA, ARCH effect-LM test, ARCH / GARCH model, Value at Risk assessment.

The results showed that all stock indices with different periods were used, namely RJIIB, RJIIA, RLQ45B, RLQ45A stationary at the level, from the observation of the ACF and PACF plots, the best ARMA forecasting models were produced, namely RJIIB ARMA (1,0,0), RJIIA ARMA(2,0,2), RLQ45B ARMA (1,0,0) and RLQ45A ARMA (2,0,3). All variables have an ARCH Effect (heterokedasticity) that has been tested by the ARCH Effect-LM. Then, the best GARCH model was obtained from the stock index return, while the best GARCH model was obtained by RJIIB GARCH (2.3), RJIIA GARCH (2.1), RLQ45B GARCH (2.1) and RLQ45A GARCH (1,1). The results of the GARCH model show that there are differences in the volatility of the JII and LQ45 stock indices in the period before Covid-19 and during Covid-19, where volatility during Covid-19 is higher than before Covid-19. The value at risk results obtained show that the highest VaR value is in the return on shares of the Jakarta Islamic Index during Covid-19.

Keyword: return, volatility, Value at Risk, GARCH