

ABSTRACT

FORECASTING THE RUPIAH EXCHANGE RATE AGAINST THE JAPANESE YEN WITH THE GENERALIZED AUTOREGRESSIVE CONDITIONAL HETEROSKEDASTIC (GARCH) MODEL

By

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Generalize Autoregressive Conditional Heteroscedastic (GARCH) is a theory that extends the Autoregressive Conditional Heteroscedasticity (ARCH) theory because it is able to minimize taking too large a lag in the model. GARCH theory is more commonly used in the financial sector. This research aims to get the best GARCH model and forecast the rupiah exchange rate against the Japanese yen. The analysis results obtained show that the best model for forecasting the rupiah exchange rate against the Japanese yen is the ARIMA (3,1,3) - GARCH (0,3) model as evidenced by the MAPE accuracy value of 1.63%. Based on the forecast results for January 2, 2025 to March 5, 2025 indicate that the Rupiah Exchange rate experienced low levels of fluctuation.

Keywords: *ARIMA-GARCH, Forecasting, MAPE, Rate*

ABSTRAK

PERAMALAN NILAI TUKAR RUPIAH TERHADAP YEN JEPANG DENGAN MODEL *GENERALIZED AUTOREGRESSIVE CONDITIONAL HETERSCEDASTIC* (GARCH)

Oleh

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Generalize Autoregressive Conditional Heteroscedastic (GARCH) merupakan teori yang memperluas teori *Autoregressive Conditional Heteroscedasticity* (ARCH) karena mampu meminimalisir pengambilan *lag* yang terlalu besar pada model. Teori GARCH lebih umum digunakan dalam sektor keuangan. Penelitian ini bertujuan mendapatkan model GARCH terbaik dan meramalkan nilai tukar rupiah terhadap yen Jepang. Hasil analisis yang diperoleh menunjukkan bahwa model terbaik untuk meramalakan kurs rupiah terhadap yen Jepang yaitu model ARIMA (3,1,3) – GARCH (0,3) yang dibuktikan dengan nilai akurasi MAPE sebesar 1,63%. Berdasarkan hasil ramalan untuk tanggal 2 Januari 2025 sampai 5 Maret 2025 menunjukkan bahwa kurs rupiah memiliki fluktuasi yang rendah.

Kata Kunci: ARIMA-GARCH, Peramalan, MAPE, Kurs