

ABSTRACT

The exchange rate is one of the macroeconomic components that have a distinctive characteristic of fluctuation and heteroskedasticity pattern. From early of 2008 to the end of 2017, the rupiah has been depreciated toward US dollar as much as 44,59% were during those periods it consists of high fluctuation periods especially between 2008-2009 and 2014-2016 but interspersed by a more stable period during 2010-2013. Consequently, it is paramount important to perform research regarding the projection model for rupiah to the US dollar exchange rate that fits with its distinctive characteristic.

This research will focus on the projection performance comparison of ARIMA-GARCH time series method and Backpropagation Artificial Neural Network (BP-ANN) method for rupiah to the US dollar exchange rate. From Mean Squared Error (MSE) measurement method and level of accuracy measurement, BP-ANN shows a better performance compared to ARIMA GARCH. Another conclusion from this research is the decreasing performance along with the projection time duration that happened to both models.

Keywords: *ARIMA, Artificial Neural Network, Backpropagation, GARCH, Proyeksi, Time series.*