ABSTRACT

Uncertainty of the movement of the middle rate of US dollar against rupiah (USD/IDR) gives influence to the economy especially in the economic crisis. One of them is able to cause loss of asset value. This makes investors and policy makers in the financial sector more prudent in protecting asset values. Therefore, it is important for investors and decision makers to understand how to minimize risk by doing risk management. The methods that can be used to calculate the magnitude of risk that occurs in an asset are the Generalized autoregressive conditional heteroskedasticity (GARCH) and Value at risk (VaR) model where the GARCH model is used to predict future risks while the VaR model can estimate the losses The maximum to be earned over a given time period and level of confidence. In addition, this study uses backtesting test with Kupiec criterion that aims to test whether the GARCH model is appropriately applied to calculate risk during economic crisis in 2005, 2008, and 2010.

The results of this study that value of volatility for the year 2005 that amounted to 0.00281190378, for the year 2008 that is 0.000731691, while for the year 2010 that is 0.0000000704. In addition, the results of this study also states that in the backtesting test, GARCH and VaR models are not suitable to be applied to calculate the risk during economic crisis in 2005, 2008, and 2010 by using 95% confidence level and 99% confidence level.

Keywords: *Middle rate of USD/IDR, GARCH, VaR, Backtesting, Kupiec Criteria*