ABSTRACT

Gold commodity is one of the commodities that often experiences quite significant price changes in the range of 2008-2018. These significant changes that occur in gold prices cause fluctuations level to be high. The high fluctuation shows that the level of volatility that occurs is large enough so that the potential for losses due to gold investment becomes large. Therefore, it is necessary to do risk management to minimize these losses. One derivative instrument that can be used to minimize the losses is an option contract. This research was conducted to test the implementation of gold price index option contracts using the Black Scholes and GARCH models with a long straddle strategy. The testing is done by looking at the comparison of the results of the calculation from the historical volatility value and the GARCH volatility. The results of the study are displayed by looking at the comparison of the average mean-square error (AMSE) percentage values of the two models. From the research that has been done, it shows that the Black Scholes model has a better gold price index option contract than the GARCH model for maturities of 1 month, 2 months and 3 months. This is shown from the AMSE value of call options and put options in the Black Scholes model which is always smaller than the GARCH model for each contract maturity period. In addition, the potential for maximum profit by implementing the long straddle strategy in gold price index option contracts in the range of 2008-2018 is 54.98% with an average profit potential of around 25-30%.

Keywords: Black Scholes, GARCH, option contract, Straddle Strategy