

ABSTRACT

Handayani, Suci. 2022. *Fuzzy Time Series Automatic Clustering Fuzzy Logic Relationship (ACFLR) Method at World Gold Prices*. Thesis. Statistics Study Program. Muhammadiyah University of Semarang . Supervisor: I. M. Al Haris, M.Si., II. Dr Rochdi Wasono, M.Si.

Gold is one form of long-term investment that is in great demand by investors because it has a relatively low risk. The price of gold is influenced by the global economic situation which causes price changes to fluctuate. Forecasting gold prices is considered indispensable to monitor future gold price movements. Automatic Clustering Fuzzy Logic Relationship (ACFLR) method is used for forecasting time series data. Automatic clustering algorithm that can form intervals with the concept of fuzzy logic and fuzzy logic Relationships is carried out to obtain forecast values. The data used in this study is monthly data on the closing price of world gold for the period January 2007 to December 2021. The accuracy of forecasting in this method is measured using the Mean Absolute Percentage Error (MAPE) value. The results of forecasting the world gold price using the ACFLR method in January 2022 amounted to 1828.6385 USD and obtained a very accurate level of accuracy with a MAPE value of 1.226117% or an accuracy of 98.773883%.

Keywords : *Automatic Clustering Fuzzy Logic Relationship, Fuzzy Time Series, Gold price.*