INTISARI

PENERAPAN METODE *FUZZY TIME SERIES CHEN* DAN *AUTOREGRESIVE INTEGRATED MOVING AVERAGE* (ARIMA) DALAM PERAMALAN HARGA PENUTUPAN EMAS BERJANGKA (Studi Kasus : Harga Penutupan Emas Berjangka Periode 1 September 2021 – 16 Februari 2022)

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Melihat maraknya kegiatan investasi dikalangan muda saat ini, khususnya investasi emas berjangka dimana investasi berjangka komoditi emas dalam bentuk *trading* inin dilakukan dibursa dan tidak perlu repot pergi ketempat penjualan emas dan menerima risiko penyimpanan. Penelitian ini bermaksud untuk melihat kondisi harga penutupan emas berjangka dengan periode 1 September 2021 – 16 Februari 2022 guna dilakukan peramalan dengan menggunakan metode *Fuzzy Time Series Chen* dan *Autoregressive Integrated Moving Average* (ARIMA). Hasil peramalan dari metode tersebut kemudian diukur tingkat akurasinya menggunakan MAPE. Dari metode peramalan *Fuzzy Time Series Chen* diperoleh nilai peramalan untuk periode selanjutnya yaitu 17 Februari 2022 sebesar 1867,5 *USD/Troy Ounce* dengan MAPE sebesar 0,8% sedangkan metode peramalan *Autoregressive Integrated Moving Average* (ARIMA) model ARIMA(1,1,1) diperoleh nilai peramalan sebesar 1874,986 *USD/Troy Ounce* dengan MAPE sebesar 0,6%. Berdasarkan hasil MAPE tersebut, peramalan harga emas dengan metode *Autoregressive Integrated Moving Average* (ARIMA) menjadi pilihan yang tepat untuk dilakukan sebagai metode peramalan untuk periode selanjutnya untuk studi kasus ini.

Kata Kunci : Peramalan, Emas, *Fuzzy Time Series*, *Chen*, *Cheng*.

ABSTRACT

APPLICATION OF CHEN FUZZY TIME SERIES AND AUTOREGRESIVE INTEGRATED MOVING AVERAGE (ARIMA) METHODS IN FORECASTING GOLD FUTURES CLOSING PRICES (Case Study: Closing Price of Gold Futures Period 1 September 2021 – 16 February 2022)

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Seeing the rampant investment activity among young people today, especially gold futures investment where gold commodity futures investment in the form of trading is carried out on the stock exchange and there is no need to bother going to the place of selling gold and accepting the risk of storage. This study intends to see the condition of the closing price of gold futures for the period September 1, 2021 – February 16, 2022 in order to forecast using the Fuzzy Time Series Chen method and the Autoregressive Integrated Moving Average (ARIMA). Forecasting results from these methods are then measured for accuracy using MAPE. From the Fuzzy Time Series Chen forecasting method, the forecasting value for the next period, namely February 17, 2022, amounted to 1867.5 USD/Troy Ounce with a MAPE of 0.8% while the Autoregressive Integrated Moving Average (ARIMA) forecasting method obtained a forecasting value of 1874,986 USD. /Troy Ounce with a MAPE of 0.6%. Based on the MAPE results, gold price forecasting using the Autoregressive Integrated Moving Average (ARIMA) models ARIMA(1,1,1) is the right choice to be used as a forecasting method for the next period for this case study.

Keywords: *Forecasting, Gold, Fuzzy Time Series, Chen, ARIMA.*