

## ABSTRACT

Gold is a highly favored investment commodity due to its perceived safety against inflation risks and global economic turmoil. The global gold price serves as a benchmark for the formation of local gold prices, making its fluctuations directly impactful on investment decisions across various countries, including Indonesia. Forecasting gold prices is essential to help investors minimize potential losses, determine optimal transaction timing, and formulate adaptive financial strategies in response to global economic conditions. This study compares two forecasting methods, Double Exponential Smoothing Holt and Fuzzy Time Series Markov Chain (FTS-MC) using global gold price data from September 2016 to December 2024. The dataset consists of monthly data comprising 100 observations. The Holt method is employed to capture trend patterns based on ACF and PACF analysis, while FTS-MC is chosen for its ability to model transition patterns between states. The forecasting results show an sMAPE of 3.1349% for the Holt method and 2.3981% for FTS-MC. The lower sMAPE value achieved by FTS-MC indicates a higher level of accuracy, suggesting that this method is a suitable alternative for short-term gold price forecasting.

**Keywords:** Forecasting, Gold Prices, Double Exponential Smoothing Holt, Fuzzy Time Series Markov Chain, sMAPE.