

## ABSTRACT

International trade is one of the ways for a country to meet the needs of its society. International trade requires an equivalent exchange rate, commonly referred to as a currency exchange rate. Exchange rate fluctuations are an important factor in international trade that can affect a country's economic stability. The United States is one of Indonesia's largest trading partners, making it essential to predict the Rupiah exchange rate against the US Dollar. Fuzzy Time Series is a forecasting technique that transforms numerical values into linguistic terms, making it suitable for data with no specific patterns, such as exchange rates. Fuzzy Time Series Chen and Markov Chain are developments of the Fuzzy Time Series method. Determining intervals is a crucial aspect of using this method. Sturges and Average Based are interval determination methods in Fuzzy Time Series. A comparison between Fuzzy Time Series Chen and Markov Chain using Sturges and Average Based intervals is conducted to achieve better forecasting results. Fuzzy Time Series Markov Chain with Average Based intervals provides better forecasting results for predicting the Rupiah exchange rate against the US Dollar, with a MAPE value of 0.3351% compared to the other three methods.

**Keywords:** *Exchange rate, Fuzzy Time Series Chen, Fuzzy Time Series Markov Chain, Sturges, Average Based, Interval, MAPE.*