

## Fuzzy Time Series and Moving Average Method to Predict the Currency Exchange Rate

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### ABSTRACT

The exchange rate is the price of one currency in relation to another currency, expressed as a percentage. There is also a potential for fixed or dynamic exchange rates. Even though central banks control fixed exchange rates, the market determines floating exchange rates by the supply and demand of goods and services, not by the supply and demand of money. The main objective of this study is to predict the exchange rate using the method Fuzzy Time Series and Moving Average Method. The sub-objectives are to compare the method that is used, which is the Fuzzy Time Series and Moving Average Method, and to select the best method to predict the exchange rate by using Mean Absolute Percentage Error (MAPE) and Root Mean Square Error (RMSE). This study purposes of using the Fuzzy Time Series and Moving Average Method to predict the currency exchange rate. This study can help many sectors in Malaysia, such as governments, investors, and communities. Root Mean Square Error (RMSE) and Mean Absolute Percentage Error (MAPE) are used to evaluate this method's performance. The results show that Fuzzy Time Series produce a good forecast result compared to the Moving Average Method because the analysis shows that Fuzzy Time Series has the lowest Value of RMSE and MAPE.

**Keywords:** Exchange rate, Fuzzy Time Series, Moving Average Method, RMSE, MAPE