

ABSTRACT

Stock price index is an indicator that serves to determine the fluctuations (condition) of the stock price whether goes up or down. Prediction is done to estimate fluctuations of stock price index.

One of the prediction algorithm are Time Variant Fuzzy Time Series (TVFSTS). TVFSTS has been developed and combined with the Particle Swarm Optimization (PSO) algorithm. In this study, a combination of TVFSTS and PSO algorithm will be applied to predict LQ45 and IHSG index. The prediction results are compared with the prediction result of then we compare the result with Time Variant Fuzzy Time Series Algorithm without PSO.

Results of several trials in this study suggest that the stock price index prediction using combination of PSO and the TVFSTS algorithms has Mean Absoute Deviation of 3.73492 and Mean Absolute Percentage Error of 1,461%. While TVFSTS without PSO has Mean Absoute Deviation of 3.90169 and Mean Absolute Percentage Error of 1,557%. From the experimental results it can be concluded that the combination of TVFSTS with PSO algorithms has better results than TVFSTS algorithm without PSO.

Key Word: Fuzzy Time Series, Particle Swarm Optimization, Prediction, Stock Index Price.