

***Abstract: A Hybrid Fuzzy Time Series Model Based on Fitting Function for Forecasting TAIEX Index***

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**Abstract**

Many traditional time series model has been widely applied in forecasting stock index. However, the previous time series methods still have some problem: (1) conventional time series models only considered single variable; (2) traditional fuzzy time series model determined the interval length of linguistic value subjectively; (3) selecting variables depended on personal experience and opinion. Hence, this paper proposes a novel hybrid fuzzy time series model based on fitting function to forecast TAIEX (Taiwan Stock Exchange Capitalization Weighted Stock index). The proposed models employed Pearson's correlation to select important technical indicators objectively. In verification, the practically collected TAIEX datasets from 1998/01/03 to 2002/12/31 are used as experimental dataset and the root mean square error (RMSE) as evaluation criterion. The results show that the proposed models outperform the listing models in accuracy.