1151-91-264 **Jingyue Zhang**, Choice Research Group, NJ , and **Andrew Kyung***, Choice Research Group, NJ. *Time Series Analysis of Economic Data Using Mathematical And Computational Simulations.*

Economic data such as stock prices and interest rates gathered can be used for the dynamic nature analysis using math, statistical and computational techniques. Time series analysis provide the appropriate methods necessary in order to analyze sequential data. It may be challengeable to picture the essential, underlying trend of the data if the time series has a lot of noise. To distinguish the signal and the noise from each other, various linear and nonlinear smoothers must be applied. In this paper, MATLAB and other computational tools were used for the sequential nature analysis. Since these data require proper interpolation in which the fitting model exactly matches the data, least squares regression line (LSRL) was used to minimize the sum of the squares of the deviations between the assumed model and the actual data. To perform the forecasting of the economic data with a trend, the simple exponential smoothing in the Holt's linear trend method with a forecast equation and two smoothing equations was used. This paper shows that the solutions using the statistical and computational mathematics can assist with the quantitative analysis in the economic forecast analysis. (Received August 20, 2019)