

Application of ARIMA Model in Financial Time Series in Stocks

ABSTRACT

In order to study the development of stock exchange between China and the United States during the Sino-U.S. trade war, the stock trends of the two countries were compared and analyzed, combined with the time series prediction, and displayed with the visual result chart. Judging the data's stability from its original time sequence diagram, autocorrelation diagram and p-value, make difference for non-stationary data, then determine the appropriate parameters P and Q in ARIMA model according to autocorrelation diagram and partial autocorrelation diagram, confirm the model for model test, select the model with the lowest AIC, BIC and hqlc values to predict 10% of the total data and visualize. From the visual results, the prediction effect is not very good, there are relatively large errors, and the trend of stock closing price is not consistent. ARIMA model is not very good in the application of stock market, which needs to be improved.