Fuzzy forcasting with DNA computing

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摘要.

Abstract

There are many forecasting techniques including: exponential smoothing, ARIMA model, GARCH model, neural networks and genetic algorithm, etc. Since financial time series may be influenced by many factors, conventional model based techniques and hard computing methods seem inadequate in the prediction. Those methods, however, have their drawbacks and advantages. In recent years, the innovation and improvement of forecasting techniques have caught more attention, and also provides indispensable information in decision-making process. In this paper, a new forecasting technique, named DNA forecasting, is developed. This may be of use to a nonlinear time series forecasting. The methods combined the mathematical, computational, and biological sciences. In the empirical study, we demonstrated a novel approach to forecast the exchange rates through DNA. The mean absolute forecasting accuracy method is defined and used in evaluating the performance of linguistic forecasting. The comparison with ARIMA model is also illustrated.