Exploring Seasonality Effect of Multinational Stock Dynamism with Support Vector Regression and Artificial Intelligence Approach

邱登裕, 徐政義

Information Management

Computer Science and Informatics

chiuden@chu.edu.tw

Abstract

We propose a hybrid approach of support vector regression, genetic algorithm, and seasonal moving window to explore seasonality effect for the stock indexes in three developed and one emerging markets using daily prices from 1996 to 2005. First, we utilize genetic algorithm to locate the approximate optimal combination of technical indicators. Then the property of nonlinearity and high dimensionality of the support vector regression is employed to explore the stock price patterns. Finally, we adopt seasonal moving window to capture the seasonality effect of stock market returns. We find that the proposed method outperforms buy-and-hold returns.

Keyword：genetic algorithm; support vector regression; moving window; seasonality effect