摘要

股票是許多人採取投資的項目。若能準確預測股價的漲跌，則可以有效地降低投資風險，賺取利潤。然而，有許多因素會影響股票走勢，例如政治因素，匯率變化，天災人禍。因此，股票走勢很難被精確預測。我們嘗試用模糊統計來解決股價預測的問題。本論文藉由模糊相關矩陣來建立多變量模糊時間數列，以便用來預測股票趨勢。實證研究則以台灣加權股價指數爲對象，對每日的收盤價進行模糊時間數列分析與預測，還計算誤差與準確率。實證研究顯示，能降低投資者的風險。

關鍵辭: 模糊時間數列，模糊關係矩陣，預測。

An Application of Multivariate Fuzzy Time Series on Financial Markets.

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Abstract

Stock is an item most people using to invest. We can decrease the risk of invest effectively and get more earnings, if we can accurately forecast the price fluctuation of stock. However, there are many factors influencing the trend of stock price, such as political factor, foreign exchange rate, and natural disasters and wars. Consequently, the trend of stock price is difficult to be forecasted accurately. Now, we attempt to use fuzzy statistics to solve the problem of stock price forecast. In this paper, multivariate fuzzy time series, which are set up with fuzzy relation matrix, is used to forecast price of stock. This empirical study is based on Taiwan Weighted Stock Index. We not only analyze and forecast the daily closing price by fuzzy time series analysis, but also calculate the error and accuracy rate. As the result of our study, it can reduce to the risk of investment.

Keywords: fuzzy time series, fuzzy relation matrix, forecasting.