Taylor & Francis
Online

Applied Financial Economics ›
Volume 22, 2012 - Issue 3

294 Views | 12 CrossRef citations to date | 0 Altmetric

Original Articles

Forecast of stock market based on nonharmonic analysis used on NASDAQ since 1985

Takafumi Ichinose, Shigeki Hirobayashi, Tadanobu Misawa & Toshio Yoshizawa

Pages 197-208 | Published online: 11 Oct 2011

Cite this article https://doi.org/10.1080/09603107.2011.607129

Sample our Economics, Finance, Business & Industry Journals
>> Sign in here to start your access to the latest two volumes for 14 days

Full Article | Figures & data | References | Citations | Metrics
Reprints & Permissions | Read this article | Share

Abstract

Although research involving economic time series forecasting based on virtual market models is frequently conducted, long-term forecasting is difficult due to many factors that affect actual markets. However, as exemplified by the business cycle and Elliot Wave theories in economics, it is assumed that fluctuations in economic time series forecasting have various periodicities, ranging from short-term to long-term. Accordingly, we used a new high-resolution frequency analysis (Non-Harmonic Analysis (NHA)) method, which we have recently developed, to conduct analysis of the periodicity of economic time series forecasting. We also attempted a long-term economic time series forecast by combining multiple periodic signals. In the verification experiment, we analysed the National Association of Securities Dealers Automated Quotations (NASDAQ) closing price data for a time period of approximately 20 years

using nonharmonic analysis with an analysis window of the previous 2 years, and forecasted price fluctuations for the following 2 years.

Keywords:

NASDAQ | signal processing | Fourier transform | Non-Harmonic Analysis (NHA) | stock market

JEL Classification:

C63 | C53 | C32 | C50 | C30

Acknowledgements

I would like to express my deepest gratitude to graduates from our department, T. Sugata, H. Usui, T. Ishikawa K. Yamamoto and Y. Sasabe, for their cooperation in the computational experiments.

Related research

People also read | Recommended articles | Cited by 12

Information for

- Authors
- R&D professionals
- Editors
- Librarians
- Societies

Open access

- Overview
- Open journals
- Open Select
- Dove Medical Press
- F1000Research

Opportunities

- Reprints and e-prints
- Advertising solutions
- Accelerated publication
- Corporate access solutions

Help and information

- Help and contact
- Newsroom
- All journals
- Books

Keep up to date

Register to receive personalised research and resources by email

Sign me up

Copyright © 2026 Informa UK Limited Privacy policy

Cookies Terms & conditions Accessibility

Registered in England & Wales No. 01072954
5 Howick Place | London | SW1P 1WG