Time Evolution of Fractal Structure by Price-Axis Scaling and Foreign Exchange Intervention Operations

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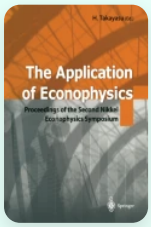

The Application of Econophysics

Yoshiaki Kumagai

Summary

We propose a simple method to describe the fractal structure of data, which are irregularly spaced. Using the extreme values determined with a scale, we define a kind of fractal dimension: the fold dimension This method is based on the same concept as a technical analysis: Kagi chart. In this contribution, we use a high-frequency data set on bid and ask prices of the Dollar/Yen exchange rates, and investigate time evolution of the fractal dimension. Moreover we analyze the effect of foreign exchange intervention operations.

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Author information

Authors and Affiliations

School of Education, Waseda University, 1-6-1 Nishi-waseda, Shinjuku ku, Tokyo, 169-8050, Japan

Yoshiaki Kumagai

Editor information

Editors and Affiliations

Sony Computer Science Laboratories, Inc., 3-14-13 Higashi-Gotanda, Shinagawa-ku, Tokyo, 141-0022, Japan

Hideki Takayasu (Senior Researcher) (Senior Researcher)

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