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

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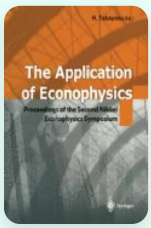

The Application of Econophysics

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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