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

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pp 58–63 | Cite this conference paper

The Application of Econophysics

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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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Cite this paper

Kumagai, Y. (2004). Time Evolution of Fractal Structure by Price-Axis Scaling and Foreign Exchange Intervention Operations. In: Takayasu, H. (eds) The Application of Econophysics. Springer, Tokyo. https://doi.org/10.1007/978-4-431-53947-6_7

.RIS .ENW .BIB

DOI	Publisher Name	Print ISBN
https://doi.org/10.1007/978-4-431-53947-6_7	Springer, Tokyo	978-4-431-67961-5
Online ISBN	eBook Packages	
978-4-431-53947-6	Springer Book Archive	

Key words

High frequency data | Technical analysis | F'ractal dimension | Exchange rate | Intervention operation

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