

# **Concentration and Collapse in Markets: A Mechanism Leading From Bubbles To Crashes**

**Taisei Kaizoji**

Department of Economics and Business, International Christian University  
3-10-2 Osawa, Mitaka, Tokyo 181-8585, Japan  
kaizoji@icu.ac.jp

In this talk, I will present a mechanism of crashes of bubbles in the housing markets of U.S. China and Japan from econophysics point of view. We investigate quantitatively statistical properties of an ensemble of housing and land prices in those countries in the period corresponding to a period of bubbles and crashes. We found that the tail of the distributions of the ensembles of prices in the high price range is approximately described by a power-law distribution, and furthermore, that as the power-law exponents approached unity, the bubbles collapsed. I also show the same empirical phenomena are observed in stock markets in the period of internet bubble. The empirical results indicate that a bubble is a phenomenon that enlarges extraordinarily the inequality of prices. The findings suggest that (i) bubbles are caused by an over-concentration of investment capital, and that (ii) power-law (the Gini coefficient in terms of economics) for prices is an indication that bubbles will burst.

I will also introduce a behavioral model in order to explain collapse of bubbles.

## **Keywords**

Bubbles, crashes, power-law, the Gini coefficient, behavioral model, and phase transition.

## **References**

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