

Title:

On market crashes and granular economy

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Abstract:

Empirical observations on the collapse of the financial bubble has revealed certain regularities in terms of the price distribution of stocks. The distribution function of the ensemble of stock prices $P(\pi) \sim \pi^{-\alpha}$ has $\alpha=2$ for large values of stock prices π , during the collapse. It also serves as a indicator to an approaching collapse as α approaches 2.

We propose a simple model to address the relation between growth and inequality, in particular, between the exponent α of price distribution and the flow of money in the economy. Our main thesis is that, because of the granularity of the economy (i.e. that objects are non-divisible) the flow in the economy essentially stops when $\alpha \leq 2$.