

A Post-Keynesian Interpretation of Anomalous Diffusion in Finance

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This paper examines applications of Tsallis and Renyi entropy within Quantitative Finance with the objective of supporting a Keynesian interpretation of resulting diffusion processes. The paper outlines a feasible research trajectory that weaves together seemingly disparate strands of research, which each share a common concern for the phenomenon of uncertainty aversion in decision-making. On the basis of observations made by Constantino Tsallis, the link between uncertainty aversion and the axioms of Tsallis entropy is provided by the well-known sub-additivity condition, which Tversky and Wakker have observed as characterizing decision-making under conditions of uncertainty. This paper has been motivated by a perceived need to reconcile financial modelling with the analysis of broader economic decisions about production and physical investment, in the hope that research can illuminate issues relating both to macroeconomic policy and appropriate mechanisms of prudential control.