Risk, Uncertainty and Information

("Financial Entropy")

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Abstract

We make a distinction between Risk and Uncertainty. Risky prospects mean that probabilities of future possible outcomes are known while uncertain prospects means that the probabilities of these outcomes are also unknown and have to be estimated. The Maximum Entropy Formalism allows us to estimate these probabilities in a manner which is least committal to unobserved information. We use the Maximum Entropy Functions to characterize the preferences of agents operating in a financial systems. We find that under a non-extensive entropy we can characterize these preferences in terms of relative over - confidence and probability scaling. We find that if the financial system is described by a non – extensive entropy, the Arrow – Pratt Index of Risk Aversion is scaled by respective probabilities of future outcomes.