Monotone Additive Statistics

Xiaosheng Mu

(joint work with Luciano Pomatto, Philipp Strack and Omer Tamuz)

Abstract

Consider the collection of bounded random variables on a nonatomic standard probability space. A *statistic* is a function that assigns a single real number to each random variable, for example its mean or median value. We characterize all statistics that are monotone with respect to first order stochastic dominance, and are additive with respect to independent random variables. Applications to risk and time preferences are discussed.