

Joint WSU/UI Statistics & Applied Probability Seminar

A Class of Location Independent Variability Orders with Applications

Dr. Moshe Shaked
Mathematics Department
University of Arizona

April 15, 2009
4:10 p.m.
Neill Hall 5W

Refreshments at 3:45 p.m. in Neill 413

Abstract:

Li and Shaked (2007, *Journal of Statistical Planning and Inference* 137, 3601-3610) introduced the family of the generalized total time on test transform (TTT) stochastic orders, which is parameterized by a real function h which can be used to capture the preferences of a decision maker. It is natural to look for properties of these orders when there is an uncertainty in determining the appropriate function h . In this talk I will describe a study of these orders when h is nondecreasing. It is noted that all these orders are location independent. The dispersive order, and the location independent riskier order, are characterized by means of the generalized TTT orders with nondecreasing h . Further properties, that strengthen known properties of the dispersive order, are given. A useful nontrivial closure property of the generalized TTT orders with nondecreasing h is obtained.

Applications in poverty comparisons, risk management, and reliability theory are described.

Collaborators: Miguel A. Sordo, Universidad de Cádiz; Alfonso Suárez-Llorens, Universidad de Cádiz