COMPARISONS BETWEEN LARGEST AND SMALLEST ORDER STATISTICS FROM PARETO DISTRIBUTIONS

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Abstract. In the paper, we discuss the problem of the stochastic comparisons of the largest and smallest order statistics from independent heterogeneous Pareto random variables with different scale and shape parameters. We study the reversed hazard rate order of smallest order statistics, usual stochastic order of the largest order statistics of type I in the sense of multivariate chain majorization. Furthermore, we investigat hazard rate order of smallest order statistics, usual stochastic order of the largest order statistics of type II in the sense of multivariate chain majorization and majorization orders respectively.

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