

MARSHALL-OLKIN EXTENDED LINDLEY DISTRIBUTION AND ITS APPLICATION

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Abstract: A two-parameter Marshall-Olkin extended Lindley distribution is introduced and its structural properties are investigated. These include the compounding representation of the distribution, the shapes of the density and hazard rate functions, the moments and quantiles as well as the limiting distributions of extreme order statistics. Maximum likelihood estimation of the model's parameters and their estimated asymptotic standard errors are derived based on randomly right censored data. Application of the model to randomly right censored real data set will be presented and compared with other commonly used two-parameter distributions.

AMS Subject Classification: 62F10, 60E15, 62N05

Key Words: lindley distribution, maximum likelihood estimation, hazard rate, extreme order statistics, minimal and maximal domain of attraction

Received: September 4, 2012

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