BOUNDARY PROPERTIES OF BOUNDED INTERVAL SUPPORT PROBABILITY DISTRIBUTIONS

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Abstract

This paper explores the properties of probability distributions as the random variables that defined those distributions approaching their bounded interval support. The models under study are: Kumaraswamy, Kumaraswamy Kumaraswamy, Kumaraswamy $(1, b)$ with beta $(1, b)$, and Kumaraswamy $(a, 1)$ with beta $(a, 1)$ distributions. The behavior of the probability density function of the random variables differs greatly at both the lower and the upper boundary points of the support. The results displayed in this research are the same for all the aforementioned pdfs and their cumulative distribution functions, survival functions and hazard functions. The results agreed with some well-known results in the literature. The probability density function, cumulative distribution function, survival function and hazard function approximate to the different values at the boundary points as the support approaches the boundary points.