Inferences on the Association Parameter in Farlie-Gumbel-Morgenstern Copula Based Bivariate Distribution

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Abstract

This work focuses on the inferential aspects of the association parameter based on a random sample from a bivariate distribution which combines the marginal distributions using the Farlie-Gumbel-Morgenstern copula (FGMC). Most of the existing works on copula based joint distributions deal with the connections between the underlying association parameter of the copula based bivariate distribution and the standard correlation measures. However, less attentions have been paid on the inferences of the association parameter itself. Hence, this work of ours injects a new lease of life on the FGMC-based joint distributions onsideration. This can provide an alternative and much needed perspective going be yond the bivariate (or multivariate) normal distribution which, though widely used, may be questionable in some applications.

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