On Generalized Cumulative Past Inaccuracy Measure for Marginal and Conditional Lifetimes

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Abstract : Recently, the notion of past cumulative inaccuracy (CPI) measure has been proposed in the literature as a generalization of cumulative past entropy (CPE) in univariate as well as bivariate setup. In this paper, we introduce the notion of CPI of order α (alpha) and study the proposed measure for conditionally specified models of two components failed at different time instants called generalized conditional CPI (GCCPI). We provide some bounds using usual stochastic order and investigate several properties of GCCPI. The effect of monotone transformation on this proposed measure has also been examined. Furthermore, we characterize some bivariate distributions under the assumption of conditional proportional reversed hazard rate model. Moreover, the role of GCCPI in reliability modeling has also been investigated for a real-life problem.