

ABSTRACT

The improved Maximum Likelihood Estimators of Lindley Distribution using uncertain prior information are considered. The improved estimation strategies, which includes the preliminary test, the Graybill-Deal-Type estimator, the linear shrinkage estimator, the shrinkage pretest estimator, the James Stein-type estimator and the Positive James-Stein-type estimator are suggested. A large sample test statistics is also proposed for testing homogeneity of Lindley's parameter hypothesis. The asymptotic distributional bias and asymptotic distributional quadratic risk were used for comparing the performance of the suggested estimators. The graphical analysis of the suggested estimators in terms of asymptotic distributional quadratic bias and risk has also been done. It has been observed for larger dimensions ($q \geq 4$) the positive James-Stein-type shrinkage estimators performed very well over other estimators.