

New Efficient Class of Estimator in Case of Measurement Errors Using Simple Random Sampling

Shashi Bhushan¹, Anoop Kumar², Dushyant Tyagi² and Shivam Shukla²

ABSTRACT

This article introduces a new efficient class of logarithmic estimator for the estimation of population mean using simple random sampling (SRS) in case of measurement errors. The bias and mean square error (MSE) of the proposed class of estimator is derived to the first order of approximation. The theoretical conditions are obtained by comparing the MSE of the proposed and existing estimators. The theoretical results are supported with the numerical and simulation studies using real and artificially generated populations.

Key Words: Mean square error, Measurement error, Simulation study.