



IMPROVED SAMPLING STRATEGIES BASED ON MODIFIED RATIO ESTIMATOR

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Abstract

In this paper, we have proposed to use two sampling strategies based on the modified ratio estimator using the coefficient of variation and the coefficient of kurtosis of the auxiliary variable by Upadhyaya and Singh (1999) for estimating the population mean (total) of the study variable in a finite population. Also the proposed sampling strategies utilizing the information about the population mean, coefficient of variation and the coefficient of kurtosis of the auxiliary variable are shown to be better in the sense of unbiasedness and smaller mean square error. A comparative study is made with usual sampling strategies utilizing the availability of the range prior information regarding the optimizing value of the characterizing scalar. Finally, some concluding remarks are given and an empirical study is included as an illustration.

Key words : Ratio estimator, Coefficient of kurtosis, Unbiasedness, Mean square error, Prior information.