METHODS OF ESTIMATING NON-RESPONSE OF MULTI-AUXILIARY INFORMATION WITH APPLICATION

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ABSTRACT

Sampling methods are often accompanied by sampling errors in collecting data. They have associated with the design the chosen sample which can be handled in some way or another based on theoretically known styles in this field or by using the comprehensive census type. However, the people concerned with preparing and implementing statistical work face non-random errors. Which are not less dangerous than errors connected with sampling method. Whether what has been chosen partially of the population or by containing all items. These non-random errors weaken the collected data efficiency. Because it is difficult to discover or to know: That is due to non-technical methods to handle them. In this paper focuses on the estimation of non-response of multi-auxiliary information of a finite population and infinite population. A comparison study is made between three methods of estimation using the multi-auxiliary information; these methods are multi-mean imputation, multi-ratio method of imputation and multi-power transformation method of imputation, through a randomized response technique. The relative efficiency was used to conclude the best methods by using empirically study (real data and simulation).

KEYWORDS: Multi-Auxiliary Information, Multi-Ratio Estimator, Multi-Power Transformation, Empirical Study