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REGRESSION ESTIMATOR IN TWO-PHASE SAMPLING USING MULTI-AUXILIARY INFORMATION IN THE PRESENCE OF NONRESPONSE AND MEASUREMENT ERROR AT SECOND PHASE

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SUMMARY

Azeem (2014) suggested ratio and ratio-cum-exponential estimators in two-phase sampling for estimating population mean in the presence of nonresponse and measurement error using single auxiliary variable. But in many situations, the information on multi-auxiliary variables can be used to improve the efficiency of estimators. In this paper we have suggested a generalized regression estimator to estimate the population mean in two-phase sampling using multi-auxiliary information in the presence of nonresponse and measurement error at second phase. The expression for minimum mean square error has been derived. Simulation study has also been conducted and it is shown that the proposed estimator performs better than the estimators suggested by Azeem (2014).

Keywords and phrases: Regression estimator; multi-auxiliary variables; measurement error; nonresponse.

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