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A Class of Estimators for Estimating the Variance of the Ratio Estimator

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Abstract: In this paper we have proposed a class of estimators for the variance of the ratio estimator which includes two standard estimators V_0 , V_2 and the estimators V_H and V_3 suggested by Royall and Eberhardt (1975) and Wu (1982) respectively. Under large sample approximation, the bias and mean-squared error of the proposed class of estimators are obtained. Based on this we obtain optimal variance estimator in the class and compare the relative merits with a number of estimators. For illustration an empirical study is provided. Here we confine ourselves to sampling scheme SRSWOR ignoring finite population correction.

Key words: class of estimators, estimation of variance, ratio and regression type estimators

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