Estimation of parameters in logistic distribution with RSS and comparing with SRS

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Abstract: Logistic function was used as a growth curve for the first time in 1838. Logistic model is used in economic growth, population growth studies, regression analysis natural sciences. Because of the importance of this distribution, we need optimal estimators for the involved parameters. In this paper, parameters of the Logistic distribution based on Simple Random Sampling and Ranked Set Sampling are estimated and the results obtained by these methods are compared with each others.

Keywords: logistic distribution, order statistics, simple random sampling, ranked set sampling, momen estimation, maximum likelihood estimation

References:

[1] A. Adetia, Estimation of parameters of the half- logistic distribution using generalized ranked set sampling, Computational Statistics & Data Analysis, vol. 33, no. 1, pp. 1–13, 2000.

[2] A.A. AL-Hadhrami, Parametric estimation on modified Weibull distribution based on ranked set sampling, European Journal of Scientific Research, vol. 44, no 1.1, pp. 73, 2010.

[3] M.F. AL-Saleh, Y.A. Diab, Estimation of the parameters of Dowenton's bivariate exponential distribution using ranked set sampling scheme, Journal of Statistical Planning and Inference, vol. 139, pp. 277-286, 2009.

[4] N. Balakrishnan, Handbook of the Logistic Distribution (Statistics: A Series of Textbooks and Monographs), CRC Press, 1991.