

Far East Journal of Theoretical Statistics

On Local Linear Regression Estimation In Sampling Surveys

<http://dx.doi.org/10.17654/TS053050291> Volume 53, Number 5, 2017, Pages 291-311 ISSN: 0972-0863

Conlet B. Kikechi, Richard O. Simwa and Ganesh P. Pokhariyal

School of Mathematics
University of Nairobi
P.O. Box 30197-00100
Nairobi, Kenya

e-mail:

kikechiconlet@yahoo.com

rsimwa@uonbi.ac.ke

pokhariyal@uonbi.ac.ke

Abstract

A model based survey is employed to estimate the unknown values of the survey variable, using the local linear regression approach. In particular, a local linear regression estimator in model based surveys is studied. Variance comparisons are made between the derived estimator and the Nadaraya-Watson regression estimator which show that the two estimators are asymptotically equivalently efficient.