

On improved estimators of K and B in finite population

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Abstract

A class of estimators is proposed for estimating the population parameters K and B which improves the classes considered by Srivastava et al. (1986) and Sukhminder and Sarjinder (1988). The superiority of the proposed estimators is shown both analytically and by way of a simulation study.

Keywords : Regression coefficient, bias, Mean Square Error (MSE), efficiency.

1. Introduction

Many estimators are available in literature whose optimality depends on parameters $K = \rho C_y / C_x$ and $B = S_{xy} / S_x^2$, where ρ is the population correlation coefficient between variables x and y , C_y and C_x are the coefficients of variation, and S_{xy} and S_x^2 are the covariance and variance respectively of y and x . When the value of K is unknown, it needs to be

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