

Walairat Noploha 2012: Comparative Study of Efficiency for Circular Systematic Sampling and Linear Systematic Sampling. Master of Science (Statistics), Major Field: Statistics, Department of Statistics. Thesis Advisor: Mrs. Ampai Thongteeraparp, Ph.D. 79 pages.

The objective of this research is to compare the efficiency of sample means from balanced circular systematic sampling (BC), centered circular systematic sampling (CC), modified balanced circular systematic sampling (MBC) and modified centered circular systematic sampling (MCC) with linear systematic sampling (LSY) from the population with linear trend. Population of interest in this research are simulated by statistical software SAS 9.1. Sample size and population size are based on the sampling fraction. The results show that the sample means from circular systematic sampling in 4 methods are more efficient than the sample mean from LSY except when the trend of the population is nonlinear, the population size is large, the population size is odd or the sample size is even and the sampling fraction is greater than 30%, the sample mean from LSY is more efficient than those from MBC.

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Thesis Advisor's signature