Specialist Course | Cycle XXXV
February, 2020 | Campus S. Caterina

Sampling Theory

Pier Francesco Perri
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Monday	February 17	10.00 – 13.00	Aula Cucconi
		15.00 – 17.00	
Tuesday	February 18	10.00 – 13.00	Aula Cucconi
		15.00 – 17.00	
Wednesday	February 19	09.00 – 12.00	Aula Cucconi

Program
www.stat.unipd.it/fare-ricerca/courses-201920-xxxv-cycle

SAMPLING THEORY

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Course Description

The short course aims at providing basic notions on sampling from finite population. The problem of estimating the population mean will be discussed starting from sampling with varying probabilities and emphasis will be given to the use of auxiliary variables at the estimation stage through the regression method and calibration.

Moreover, the problem of reducing nonsampling errors due untruthful response and nonresponse will be introduced and discussed in the context of surveys on sensitive issues.

Objectives

- First and second order inclusion probabilities
- Sampling with varying probabilities and some selection schemes
- Estimation of the population mean through Horvitz-Thompson estimator
- Stratified, cluster and two stage sampling
- Ratio and regression methods of estimation. The optimality of the regression estimator
- Asking sensitive questions: the randomized response technique
- The nonresponse

Bibliography

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