Small Area Estimation in Case of Informative Nonresponse

PhD proposed research project

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27 April 2015

Motivation

- The need for estimates on a low geographical scale.

- Real life experience: The sample was originally designed to produce estimates at city-level, then the local authorities asked for estimates at the suburban-level.

Background

- Small area estimation:

- No reasonable sized sample is capable to produce _direct_ estimates for all possible subgroups (Domains) of the target population.

- The U.S. Congress passed a law requiring the Secretary of Commerce to produce and publish at least every 2 years estimates of poverty for states, counties, and local jurisdictions of government and school districts.

Background (cont.)

- Poverty estimation:

- A requirement for aids allocations.
- One of the most important applications of SME.

Small Area Income and Poverty Estimates SAIPE program in US

- Video tutorials

http://www.census.gov/did/www/saipe/methods/tutorial/overviewtut.html

http://www.census.gov/did/www/saipe/methods/tutorial/sdtut.html

Point of interest

- Nonresponse rates are getting higher no matter the efficiency of survey instrument.

- Missing at random can not be assumed.

- How accounting of nonresponse would affect the model used to combine auxiliary data with survey data

This *is* the question!