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ANNOUNCEMENT/ANNONCE!

FEBRUARY 11, 2000 SYMPOSIUM

Theme of Symposium: Small Area Estimation

8:30 a.m. to 3:00 p.m. (Registration: 8:30 – 9:00 a.m.)

Friday, February 11, 2000

Natural Resources Canada
Camsell Hall, 585 Booth Street
(intersection at Booth & Carling)
Ottawa, Ontario

Jack Gambino and Peter Dick
Statistics Canada
An Introduction to Small Area Estimation and its Practice at Statistics Canada

J. N.K. Rao
Carleton University
Some Recent Advances in Model-Based Small Area Estimation

Graham Kalton
Westat
Evaluating Small-Area Estimation of School-Age Children in Poverty in the U.S.

Ralph E. Folsom
Research Triangle Institute
Design Consistent Small Area Estimates of Drug Use Prevalence by Age Group for States

The abstracts of the talks are on the reverse side (au revers).

Cost to Attend

$55 for members of OSS, CSS, ASA, $65 for non-members, $40 for full-time students

An Introduction to Small Area Estimation and its Practice at Statistics Canada

Dr. Jack Gambino, Statistics Canada

Abstract

This presentation has three parts. First, we review the basic methods for small area estimation. Second, we focus on the methods that are currently in actual use in surveys at Statistics Canada. We describe the approach used to produce small area estimates in the Labour Force Survey followed by a brief description of the approach used in the Survey of Employment, Payrolls and Hours. We also present an example of how an ad hoc request for small area estimates from the Family Expenditures Survey was handled. The third part of the presentation describes the estimation of undercoverage in the census, which uses a variety of methods including small area estimation techniques.

Some Recent Advances in Model-Based Small Area Estimation

Dr. J.N.K. Rao, Carleton University

Abstract

Small area estimation has received a lot of attention in recent years due to growing demand for reliable small area statistics. Traditional area-specific estimators do not provide adequate precision because sample sizes in small areas are seldom large enough. This makes it necessary to employ indirect estimators that borrow information from related areas such as model-based estimators. In this talk, I will present some recent advances in model-based small area estimation using two basic small area models. I will also present some recent applications as well as extensions of the basic models.

Evaluating Small-Area Estimation of School-Age Children in Poverty in the U.S.

Dr. Graham Kalton, Westat

Abstract

The U.S. Census Bureau's Small Area Income and Poverty Estimates (SAIPE) Program produces model-dependent estimates of the numbers of poor school-age children for states, counties and school districts every two years. Congress authorised a National Research Council panel study to evaluate the appropriateness of these estimates by the Department of Education for the allocation of over $7 billion annually for education programs to aid disadvantaged children. This paper describes the detailed evaluations of various alternative small-area models conducted by the NRC's Panel on Estimates of Poverty for Small Geographic Areas.

Design Consistent Small Area Estimates of Drug Use Prevalence by Age Group for States

Dr. Ralph E. Folsom, Babubhai V. Shah and Akhil K. Vaish, RTI

Abstract

Noting that the hierarchical Bayes solution for the logistic mixed model has demonstrated good frequentist properties for small samples, we have derived a survey-weighted version of the associated MCMC/Gibbs algorithm. Our Gibbs procedure allows for a vector of domain specific random effects with a general covariance matrix at each level of a nested hierarchy of clusters. The form of the conditional log-posterior distributions for the fixed effects, random effects, and covariance matrices suggest how the survey weights should be incorporated to achieve design consistency. Various design effect type weight-scaling factors are used in these conditional posteriors to achieve design consistent asymptotic mean vectors and covariance matrices for the fixed and random effects. Proper inverse Wishart priors are used for the random effect covariance matrices. This survey weighted Gibbs procedure is applied to 1994 through 1996 data from the National Household Survey on Drug Abuse (NHSDA) to produce age group specific small area estimates and associated pseudo-Bayes posterior intervals for the 50 states and the District of Columbia.