Washington Statistical Society

CHAPTER ♦ AMERICAN STATISTICAL ASSOCIATION

NEWSLETTER - MAY 1977

May   4 - Likelihood Methods of Inference: An Application to a Case-Control Study of Occupational Lung Cancer

May 24 - Is Ridge Regression a Panacea?

May 25 - LACIE - An Experimental World Wheat Forecast System

May 26 - Survey Interviewing: Performance Evaluation and the Contribution to Survey Variances

June 2 - ANNUAL DINNER (see enclosed announcement for details)

PUBLIC HEALTH AND BIOSTATISTICS

Topic: Likelihood Methods of Inference: An Application to a Case-Control Study of Occupational Lung Cancer

Chair: William J. Blot, National Cancer Institute

Speaker: Linda W. Pickle, National Cancer Institute

Discussant: Kenneth J. Rothman, Harvard School of Public Health

Dr. Pickle will discuss likelihood methods of inference, specifically for estimating the odds ratio in retrospective matched-pair studies, reporting on an example of its application to a study of lung cancer and occupation. Topics to be considered include comparisons of models and the effect of conditioning on the maximum likelihood estimators.

When and Where: Wednesday, May 4, 1977, 12:30-2:00 p.m.
                 Tower Building, 1401 K Street, N.W.
                 Basement Conference Room

PHYSICAL SCIENCE AND ENGINEERING

Topic: Is Ridge Regression a Panacea?

Speaker: Dennis E. Smith, Pennsylvania State University and Desmatics, Inc.

Chair: Toke Joyachandran, Office of Naval Research

Consider the usual regression model

$$\underline{y} = \underline{X}\underline{\beta} + \underline{\epsilon}$$

where $\underline{X}$ is a matrix of full rank, $\underline{\beta}$ is a vector of unknown parameters, and $\underline{\epsilon}$ is a vector of random errors such that $E(\underline{\epsilon}) = 0$ and $Var\ (\underline{\epsilon}) = \sigma^2 \underline{I}$. The procedure known as ridge regression has been offered as an alternative to ordinary least squares for estimating $\underline{\beta}$, particularly in those situations where "severe" multi-collinearity exists in $\underline{X}$. Ridge regression involves the use of a ridge estimator, which takes the form

$$\hat{\underline{\beta}}(k) = (\underline{X}'\underline{X} + k\underline{I})^{-1}\ \underline{X}'\underline{y}$$

where $k \geq 0$.

The properties of ridge regression relative to those of ordinary least squares are discussed. Although ridge regression does appear to offer promise, its use as a routine analysis method is not without shortcomings. Therefore, the question in the title is answered in the negative.

When and Where: Tuesday, May 24, 1977, 12:30-2:00 p.m.,
                  IRS Auditorium, 7th floor, IRS Building
                  (Please use entrance at 1111 Constitution Avenue and
                  bring a copy of this Newsletter to show the guard.)

AGRICULTURE

Topic: LACIE - An Experimental World Wheat Forecast System

Speaker: Fred B. Warren, USDA, LACIE

Discussant: William H. Wigton, Statistical Reporting Service

Chair: Howard L. Hill, USDA, LACIE

LACIE (Large Area Crop Inventory System), a joint attempt on the part of USDA, NASA, and NOAA to determine the feasibility of a global system of wheat production from remotely sensed data, is now in the third year of the experiment. Mr. Warren will discuss the performance of the experiment during its second year, plans for the current year, and possibilities for the future.

When and Where: Wednesday, May 25, 1977, 12:30-2:00 p.m.,
                  Tower Building, 1401 K. Street, N.W.,
                  Basement Conference Room

METHODOLOGY SECTION

Topic: Survey Interviewing: Performance Evaluation and the
              Contribution to Survey Variances

Speakers: Leroy Bailey, Bureau of the Census
              Anitra M. Rustemeyer, Bureau of the Census

Discussant: Gail S. Poe, National Center for Health Statistics

Chair: Thomas W. McKenna, Westat, Inc.

Mr. Bailey will discuss a study of the component of variance attributable to
interviewers for estimates made in the National Crime Survey. This will include
general conclusions based on several selected estimates of interviewer variability.
Ms. Rustemeyer will discuss a study involving the development of a test to measure
interviewer performance as a means of evaluating interviewer training. Included
will be a discussion of performance comparisons among interviewers having various
levels of experience.

When and Where: Thursday, May 26, 1977, 12:30-2:00 p.m.,
                  IRS Auditorium, 7th floor, IRS Building
                  (Please use entrance at 1111 Constitution Avenue and
                  bring a copy of this Newsletter to show the building guard.)

E M P L O Y M E N T   C O L U M N

Notes to job applicants and to employers with job openings:

1. Deadline for inserting notices is the 12th of the month
   preceding the publication month

2. Reruns of notices may be made on a space-available basis

JOB APPLICANT

Listed below is a brief description of the qualifications of an individual seeking
employment. Employers interested in interviewing this applicant should notify
Evelyn R. Kay of their interest by CODE NUMBER. The request should be by mail
and should include the employer's name, organization, and telephone number. The
applicant will be notified of the employer's interest and initiation of any
further contact will be left to the applicant. All contacts will be confidential.
Mrs. Kay's address is: National Center for Education Statistics
400 Maryland Avenue, SW
Washington, D.C. 20202 202/245-8340

CODE NUMBER: 5-4-77

Education: Ph.D. (Mathematical Statistics)

Fields of Competence: Regression Analysis, Non-Parametric Statistics,
                        Sequential Analysis, Decision Theory

Experience: Twenty years in radar and weapon systems, urban
                        systems, energy systems, clinical drug testing.

Salary Level: GS-15 or equivalent.

Type of Employment: Government or private industry in the Washington
                        Metropolitan area.

JOB OPENING

Supervisory Mathematical Statistician
GS-1529-14/15
Bureau of the Census
Suitland, Maryland

Incumbent of this position serves as
principal researcher in times series
analysis, with particular reference
to seasonal adjustment of economictime
series.

Qualifications: Civil Service Handbook, X-118. Send SF-171 to Richard W. Volk,
Personnel Division, Bureau of the Census, FOB #3, Washington, D.C. 20233.
Telephone (301) 763-5863 for further information.