WSS NEWS

Quality Benchmarking Group Forming

If the high level of interest in the WSS Quality Assurance workshops is any indication, there is a great deal of effort going on in the Washington statistical community with regard to Total Quality Organizations (TQO). There are many books and courses available to guide us, but few provide an opportunity for organizations to share, on an informal basis, their successes, failures and lessons learned. To bridge that gap, a Quality Benchmarking Group is being formed to look at what is being done by local organizations in the area of Total Quality. If you are involved in a TQO effort -- or would like to be -- contact Dan Trevors on (202) 874-0467 or Sid Schwartz on (202) 268-3490. Come together and share your experiences with quality measurement, quality councils, and other TQO topics.

Hansen Lecture Videotapes Available

Videotapes of the First Morris Hansen Lecture are now available for WSS members to borrow. The session on Sample Surveys -- 1975-1990: An Age of Reconciliation, featured T.M.F. Smith, of the University of Southampton, as the keynote speaker, and Richard Royall, Johns Hopkins University, and Charles Alexander, Bureau of the Census, as the discussants. The videotapes were donated by Westat, Inc., which funded the lecture series in honor of Morris Hansen.

The session was quite lively and entertaining, as well as provocative and informative. It would, no doubt, be quite suitable for a "lunch and learn" session on survey sampling. To borrow a copy of the tape, contact Wendy Alvey, on (202) 874-0455.

WSS Seminars (All events are open to any interested persons.)		
FEBRUARY		
11	Tues.	Computer Aided Data Collection with Pen-Based Computers
12	Wed.	**WSS Short Course:** Statistical Graphics, Information Design, Scientific Visualization
18	Tues.	Dynamic Hierarchical Models
18	Tues.	Variance Estimation Seminar: Reweighting and Variance Estimation for the Characteristics of Business Owners Survey (5th in series)
27	Thurs.	Change Point Problem in Correlated Data
28	Fri.	Near Observational Equivalence and Unit Root Processes: Formal Concepts and Implications

Announcements

Tufte Short Course

Reminder: The Washington Statistical Society short course, Statistical Graphics, Information Design, Scientific Visualization, by Edward Tufte, will be held Wednesday, February 12, 1992, from 8:30 am - 5:00 pm in the Waterford-Lalique Suite, Crystal Ballroom, of the Hyatt Regency Bethesda, 1 Bethesda Metro Center, Bethesda, MD (at the corner of Old Georgetown Road and Wisconsin Avenue). Parking is available at a garage under the hotel for $9.00 a day or behind the hotel for $6.00 a day.

All registrations are due by **February 7, 1992.** Registration at the door cannot be guaranteed. Only limited space is now available. For more information, call Glenn White at (202) 874-1114 (W) or (301) 952-1507 (H).

Shiskin Award Nominees Sought

Nominations are invited for the annual Julius Shiskin Award for Economic Statistics. This award, established in 1979 by the Washington Statistical Society, is given in recognition of unusually original and important contributions in the development of economic statistics or in the use of economic statistics in interpreting the economy. The contributions could be in statistical research, in the development of statistical tools, in the application of computer techniques, in the use of economic statistical programs, in the management of statistical programs, or in developing public understanding of measurement issues, to all of which Mr. Shiskin contributed. Either individuals or groups in the public or private sector can be nominated.

The Award will be presented with an honorarium of $500 at the Washington Statistical Society annual dinner in June 1992. A nomination form may be obtained by writing to the Julius Shiskin Award Committee, American Statistical Association, 1429 Duke Street, Alexandria, VA 22314-3402. Completed nominations must be received by April 1, 1992.

Previous winners of the Award have represented a wide range of contributions. For example, last year, Carol A. Carson was recognized for her leadership in developing and refining the economic statistical base of the U.S. and for her contributions to the development of the revised U.N. System of National Accounts and Stephen Taylor was singled out for his work in developing and perfecting the U.S. Flow of Funds Accounts and using them to interpret the behavior of financial markets.

Cognitive Research Session Scheduled

The Washington Evaluators will sponsor a session on: "Survey Design Using a Cognitive Technique Approach," featuring Marie van Melis-Wright, Bureau of Labor Statistics.

The session is scheduled for Tuesday, February 18, 1992, from 7:00-9:00 pm at the Charles Sumner School Museum and Archives, Lecture Hall (Room 102), 1201 17th Street, NW, Washington, DC. For more information, contact George Liacopoulos on (202) 338-3726.

Census Bureau's 1992 Annual Research Conference

The Census Bureau's 1992 Annual Research Conference (ARC 1992) will be held March 22-25, 1992, at the Holiday Inn Crowne Plaza in Arlington, VA. A wide range of topics will be featured, ranging from accuracy of the undercount

Program Abstracts (cont'd)

TOPIC: **Computer Aided Data Collection with Pen-Based Computers**

SPEAKER: David A. Uglow, Bureau of Labor Statistics

CHAIR: Mick P. Couper, Bureau of the Census and University of Michigan

DATE/TIME: Tuesday, February 11, 1992, 12:30-2:00 pm

LOCATION: GAO Building, Room 2437, 441 G Street, NW, Washington, DC (Red Line – Judiciary Square) Sign in at guard's desk and state purpose and destination of visit.

SPONSOR: Statistical Computing Section

ABSTRACT: New developments in hardware and software, in particular an emerging family of graphical user interfaces designed to run on "pen-based" notebook computers, appear to be particularly well-suited for certain data collection tasks, but pose new challenges for instrument design. The Consumer Price Index (CPI) can clearly benefit from these new technologies. First, CPI Computer Assisted Personal Interview (CAPI) data collection settings make pen-based hardware attractive. Second, the structure of the survey itself and the current CPI production environment should make "forms-based," as opposed to "question-based," instruments easier to develop and use.

BLS development of forms-based instruments are taking the following steps:

- Based on a high-level model of CPI collection and examples from software in other areas, formal properties of forms-based instruments are enumerated. From this, specific authoring language requirements are inferred.

- A research and evaluation process is undertaken to develop functional specifications for the forms-based CAPI instrument.

- The role of user interface design in improving performance and acceptance is assessed. Experience from existing instruments, the computer design literature and cognitive theory are examined in several areas: volume, organization and arrangement of screen information, entering responses, and selecting instrument functions.

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TOPIC: **Dynamic Hierarchical Models**

SPEAKER: Dani Gamerman, Instituto de Matematica de Universidade Federal do Rio de Janeiro and Duke University

CHAIR: Telba Z. Irony, George Washington University

Program Abstracts (cont'd)

Dynamic Hierarchical Models (cont'd)

DATE/TIME: Tuesday, February 18, 1992, 11:30 am-12:30 pm

LOCATION: Staughton Hall, Room 301, George Washington University, 707 22nd Street, N.W.,
               Washington, DC (Blue or Orange Line -- Foggy Bottom)

SPONSORS: Physical Science and Engineering Section and George Washington University

ABSTRACT: Analysis of a time series of cross-sectional data is considered under a Bayesian
               perspective. Information is modelled in terms of prior distributions and stratified
               parametric linear models -- developed in Lindley and Smith (1972) -- and dynamic
               linear models -- developed in Harrison and Stevens (1976) are merged into a general
               framework. This is shown to include many models proposed in econometrics and
               experimental design. Properties of the model are derived and shrinkage estimators
               revisited. Evolution, smoothing and passage of data information through the levels
               of the hierarchy are discussed. Inference with an unknown scalar observation
               variance is drawn and an extension to the nonlinear case is proposed.

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TOPIC: **Variance Estimation Seminar: Reweighting and Variance Estimation for the
               Characteristics of Business Owners Survey (5th in series)**

SPEAKER: Phillip Kott, Bureau of the Census

CHAIR: Bob Burton, National Center for Education Statistics

DISCUSSANT: Steve Miller, Bureau of Labor Statistics

DATE/TIME: Tuesday, February 18, 1992, 12:30-2:00 pm

LOCATION: GAO Building, Room 2437, 441 G Street, NW, Washington, DC (Red Line --
               Judiciary Square) Sign in at guard's desk and state purpose and destination.

SPONSOR: Methodology Section

ABSTRACT: The Characteristics of Business Owners (CBO) survey is used to estimate the
               proportion of firms and business owners with particular characteristics (like the
               number of women employees, for firms, and the level of education, for owners).
               Essentially, a stratified simple random sample of firms was drawn for the 1987 CBO.
               Although all owners within those firms were sent questionnaires, only 65%
               responded to the survey. To compensate for the nonresponse, the paper develops two
               owner reweighting schemes -- one for owner characteristics and one for firm
               characteristics. These schemes produce estimators that have desirable properties

Program Abstracts (cont'd)

Variance Estimation Seminar: Reweighting and Variance Estimation for the Characteristics of Business Owners Survey (5th in series) — cont'd

under both a quasi-randomization and a parametric model (in the former, probabilities of responding to the survey are modelled, while in the latter, probabilities of having a particular characteristic are modelled). The paper then develops a theoretical variance estimator that simultaneously estimates conditional variance under the parametric model and quasi-design mean squared error under the quasi-randomization model. Finally, the paper turns to CBO variance estimation in a production setting. It shows empirically that the theoretical variance estimator is reasonably approximated by a random group variance estimator when finite population correction (fpc) does not matter. When fpc does matter, the random group variance estimators can be adjusted to remove upward bias. A caution is in order: these empirical results may not hold for data from surveys other than the CBO.

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TOPIC: **Change Point Problem in Correlated Data**

SPEAKER: Neerchal K. Nagaraj, University of Maryland, Baltimore County

CHAIR: Jeremy Wu, Department of Agriculture

DATE/TIME: Thursday, February 27, 1992, 12:30-2:00 pm

LOCATION: GAO Building, Room 2437, 441 G St., NW, Washington, DC (Red Line — Judiciary Square) Sign in at guard's desk and state purpose and destination.

SPONSOR: Methodology Section

ABSTRACT: Suppose that we have $E(X_i) = \mu$ for $i = 1, 2, ..., k$ and $E(X_i) = \mu + \delta$ for $i = k + 1, k + 2, ..., n$; for some $1 < k < n$. The integer k is known as the change point. In the classical change point problem, the observations $X_1, X_2, ..., X_n$ are assumed to be independent. In this talk, we give the asymptotic distributions of certain test statistics (which are locally optimal for independent normal observations) when the observations are associated and strictly stationary. The talk will include a brief literature review and an introduction to associated processes. Applications include auto-regressive processes. The results suggest that, even with a modest autocorrelation in the data, the true Type I Error could exceed twice the corresponding value for independent observations.

Program Abstracts (cont'd)

TOPIC: **Near Observational Equivalence and Unit Root Processes: Formal Concepts and Implications**

SPEAKER: Jon Faust, Federal Reserve Board

CHAIR: Arthur Kennickell, Federal Reserve Board

DATE/TIME: Friday, February 28, 1992, 12:30-2:00 pm

LOCATION: Eccles Building, Room B-3234, Federal Reserve Board, 20th and C Streets, NW, Washington, DC (Red Line -- Farragut North or Blue/Orange Line -- Farragut West) Please call Sheila Griffin (202-452-2992) by February 19 to gain admission.

SPONSOR: Economics Section

ABSTRACT: In recent years, the term "near observational equivalence" has been used to capture the fact that different stationary and trend stationary processes are difficult to distinguish in finite samples. In this paper, the author clarifies this discussion by providing a formal definition of near observational equivalence, which involves a slight loosening of the familiar notion of observation equivalence. In many important senses, tests to distinguish **nearly** observationally equivalent structures are as futile as tests to distinguish observationally equivalent ones -- e.g., power is less than size. Further, non-uniform convergence to asymptotic distributions under the null hypothesis may imply that the exact size of tests with fixed nominal size rises to one with sample size.

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Announcements (cont'd)

ARC 1992 (cont'd)

estimates to modeling social changes, new developments in CATI and CAPI techniques, nonresponse issues for establishment surveys, enhancements to wage and income data and many others. For more information, contact Maxine Anderson-Brown, ARC Conference Coordinator, Office of the Director, Bureau of the Census, Washington, DC 20233, (301) 763-1150.

QL Volunteers Needed
for Prince William County

The Washington Statistical Society's Quantitative Literacy Group is seeking volunteers to assist the Prince William County School System in the area of Quantitative Literacy. Rewarding opportunities exist to help elementary through high school age children expand their quantitative abilities in the volunteer areas of classroom visits, assisting in career days, becoming judges in science fairs, participating in field trips, and just generally assisting and consulting with County teachers.

This is not a full time job, and generally would involve just a few hours every school year. Please contact Brad Pafford at (202) 268-6056 (work) or (703) 490-5424 (home) to volunteer. To assist in other counties, please contact Ron Fecso at (202) 334-2295.

Tentative Schedule
of SIGSTAT Meetings

SIGSTAT is the Joint Special Interest Group in Statistics for the Capital PC User Group and WORMSC (Washington Operations Research/ Management Science Council). The tentative schedule of events for the next few months is as follows:

Feb. 19 S-Plus 2.0 Graphics.-- Interactive dynamic graphics, including 3D data spinning, scatterplot matrix brushing and point identification using a mouse.

Mar. 11 S-Plus 2.0 Statistical Analysis.-- A look at the many new statistical features of Version 2.0 (ACE, projection pursuit, M-estimation, tree-based regression, generalized linear models...).

Apr. 8 Using SAS/IML for Statistical Programming.-- Examples using the Interactive Matrix Language in SAS (bootstrapping, smoothing...).

All meetings are scheduled for Wednesdays from 12:30 - 1:30 pm in Room B-14, 1301 New York Ave., NW, Washington, DC. (The building is located midway between the Metro Center and McPherson Square Metro stops.) If this is your first SIGSTAT meeting, call Charlie Hallahan, (202) 219-0507, to gain entry into the building.

Washington Academy of Sciences Session

The Washington Academy of Sciences and its co-sponsors announce the following upcoming event for their 1991-1992 Science and Engineering Program:

"Strategic Minerals in a Changing World," to be held Tuesday, February 18, 1992, 7:00 to 9:15 pm, at Potomac Electric Power Company, Auditorium, 1900 Pennsylvania Avenue, NW, Washington, DC. (Enter on H Street.)

The session will be chaired by T S Ary, U.S. Bureau of Mines, and includes a panel of experts, featuring Brian Russell, South African Embassy;

Announcements (cont'd)

David Sutphin, U.S. Geological Survey; Hatten Yoder, Jr., Carnegie Institution of Washington; Paul Barton, Jr., U.S. Geological Survey; and George Coakley, U.S. Bureau of Mines. The panelists will discuss geologic factors -- where are strategic minerals located? -- economic and political factors, and expectations for the future of minerals in the 21st century. For more information, call the Washington Academy of Sciences office, at (703) 527-4800.

Employment Column

As a service to local statisticians, the **Washington Statistical Society News** provides notification of employment opportunities and descriptions of those seeking employment here in the Washington, DC area. Readers are encouraged to take advantage of this feature of the newsletter. The deadline for inserting notices is five (5) weeks before the publication date. Those interested should write to: Bill Arends, USDA-NASS, Room 4133 South Building, Washington, DC 20250-2000. Contact Mr. Arends at (202) 720-6812.

Vacancies

Statistician

The Postal Service has a position for a Statistician. There is an opportunity to participate in the conception, design, implementation and improvement of existing and proposed statistical information systems needed for costing purposes.

Requirements include: 1) knowledge of statistics, including sampling theory and techniques, design of surveys, experimental design, and measures of precision; 2) ability to use computer-based data and operating systems and programming languages; SAS and COBOL are highly desirable; 3) ability to participate in statistical and analytical projects, such as the statistical analysis of data from complex surveys; 4) ability to write and present study reports and help in preparation of rate case testimony; and 5) ability to apply statistical concepts to costing issues associated with postal operations. Salary $37,812 to $50,498, plus $2,871 cost of living adjustments.

Apply with complete background history, including compensation requirements, to: U. S. Postal Service, Headquarters Personnel, 475 L'Enfant Plaza, SW; Washington, DC 20260-4264, Attention: Team D. EOE

Committee on National Statistics Vacancies

The Committee on National Statistics at the National Academy of Sciences - National Research Council seeks Study Directors and Research Associates to work with the Committee and its panels of experts to advise federal government agencies on how to improve statistical methods and information for public policy decisions. Study Directors would direct studies on the content of and alternative ways to conduct the census in the year 2000. Research Associates would work on census studies and others, including alternative measures of poverty and federal economic statistics, disability statistics, national income and product accounts, statistical methods in the Department of Defense, hierarchical models for small-area predictions, and health statistics.

A Ph.D. or equivalent experience is required in a discipline relevant to the topic of study, such as statistics, economics, demography, or policy analysis, with training in quantitative methods and

Employment Column (cont'd)

at least four years of relevant experience for a Study Director and two years for a Research Associate in one or more of the following: methodology (design or analysis), survey research, economics, demographic research, national statistics, policy analysis with large data bases, statistical program administration, or statistics in public or private decision-making.

Positions require abilities to interact productively with senior scientists and other staff in a team effort and demonstrated skills in effective organization, communication, research, and, for a Study Director, management.

Please send resume, with names of three references and salary requirement, to NRC/CNSTAT, 2101 Constitution Avenue, NW, Washington, DC 20418. EOE.

Job Applicant

Listed below is a brief description of the qualifications of an applicant seeking employment. Employers interested in interviewing this applicant should contact Bill Arends by mail -- at USDA/NASS, Room 4133 South Building, Washington, DC 20250-2000 -- or by telephone -- at (202) 720-6812. All requests should include the code number from the applicant's ad, and 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 kept confidential.

Code 92-01: Part- to full-time employment at GS-12 level in Civil Service is being sought by a statistician with an M.S. degree in applied statistics and a degree in mathematics. Specialties and work experience are in experimental design and analysis utilizing the minimum discrimination information statistic, multivariate analysis, and the software packages SAS, Minitab, BMDP, Fortran, and Derive.

Obituary

William Richard Pabst, a founder in the field of statistical quality control, died of cancer at his home in Washington, DC on January 1, 1992. He was 80 years old. Pabst, who was a chief statistician for the Navy Department, was instrumental in establishing quality control methods for equipment produced by the Naval Ordnance Systems Command. After retiring, in 1968, he became interested in improving the quality of jury selection used by the US District Court of the District of Columbia. In 1978, Pabst founded the Center for Jury Studies, where he served as president and editor of its newsletter until 1981.

Pabst was a founding member and a fellow of the American Society of Quality Control. He was also an active member of the Washington Statistical Society, serving on its Board of Directors during the 1960's, and was elected a fellow of the American Statistical Association, for his contributions to quality control.

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