



December 1987

WASHINGTON
STATISTICAL
SOCIETY

NEWSLETTER

December 7	Monday	Size of the 1919 Birth Cohort
December 8	Tuesday	Toward a Theory of Leading Indicators
December 10	Thursday	Cognition and Survey Measurement Research in Federal Statistical Agencies
December 15	Tuesday	An Estimated Continuous - Time Dynamic - Optimization Investment Model with Adjustment Costs and Gestation Lags
January 27	Wednesday	Presenting Multivariate Survey Data

ANNOUNCEMENTS

Notice of Courses Offered by USDA Graduate School

The Graduate School of the Department of Agriculture (USDA) has a long history of service to the Washington statistical community. At one time, W.E. Deming was head of the Mathematics and Statistics Department, while such names as Morris Hansen and David Blackwell took courses there and later lectured along with Jerzy Neyman and Walter Shewhart. (We are preparing an article on this history, and would greatly appreciate the help of anyone knowledgeable in this area. Contact Phil Kott or Ron Fecso, phone numbers below.)

Currently, the USDA Graduate School offers a variety of inexpensive evening courses for working professionals who find themselves in the need of additional formal training in statistics (or in other fields). The Office of Personnel Management (OPM) recognizes course work at the Graduate School on par with any accredited institution on the quarter system, and Federal agencies often pay for work-related training provided by the Graduate School. Non-Federal employees may also take

advantage of the course offerings, and many do. For further information on current evening programs, call (202) 447-5885. For more general information (the Graduate School also has day and correspondence programs), call (202) 447-4419.

The Graduate School would like to expand its evening course offerings in the areas of quality control and survey sampling, topics of great importance to statisticians working in the Washington area. Our goal, as in the early years of the Graduate School, is to provide supplementary education to professionals with limited formal knowledge of the many specialty fields around which their work may now revolve. Two new course offerings we have in mind are an upper level undergraduate course in statistical quality control and a graduate level course in model-based sampling theory (the Graduate School already offers three courses on sample survey methods). If you are interested in taking either course, or if you perceive the need for an additional advanced or specialty course -- either to take, organize, or teach, call Ron Fecso at (202) 475-3486 or Phil Kott at (202) 475-3492.

WASHINGTON STATISTICAL SOCIETY PROGRAM CHAIRS

Agriculture & Natural Resources		Public Health & Biostatistics		Short Courses	
Ron Bosecker	447-3895	Jai Choi	436-7047	Virginia de Wolf	366-5361
W. Barnes Johnson	249-7388	Mary Foulkes	496-6818	Donald Gantz	425-3931
Economics		Social & Demographic Statistics		Brad Pafford	447-2129
Francis X. Diebold	452-2461	John Czajka	484-9220	Glenn White	763-5248
Robert Yuskavage	523-0876	Harvey Schwartz	223-5555	Methodology	
Physical Sciences & Engineering		Statistical Computing		Bill Winkler	252-2140
Thomas Mazzuchi	994-7514	Khalid Aboura	994-7534	David Marker	251-4398
Refik Soyer	994-6794	David Grier	546-8231	Newsletter Editor	
Employment				Michael Cohen	454-6193
Evelyn Kay	331-1153				

PROGRAM ABSTRACTS

TOPIC: Size of the 1919 Birth Cohort
SPEAKER: Bert Kestenbaum, Social Security Administration
CHAIR: Denton Vaughan, Social Security Administration
DISCUSSANT: Greg Robinson, Bureau of the Census
DATE & TIME: Monday, December 7, 1987; 12:30 to 2:00 p.m.
LOCATION: Room 2736, GAO Building, 441 G Street, N.W., Washington, D.C.
(Please call 523-1760 no later than Friday, December 4 to assure entrance.)
SPONSOR: Social and Demographic Statistics
ABSTRACT: The count of issuances of social security numbers to persons born in the United States in 1919, adjusted for the phenomenon of persons issued more than one number, should be a lower bound on the number of native Americans alive when issuance commenced in late 1936. With appropriate survival rates, this translates into a lower bound on the number of U.S. births in 1919. However, despite an apparently generous allowance for multiple issuances, the count obtained exceeds the official estimates of 1919 births.

TOPIC: Toward a Theory of Leading Indicators
SPEAKER: Frank de Leeuw, Bureau of Economic Analysis
CHAIR: Gaylord Worden, Census Bureau
DISCUSSANT: Glenn Rudebusch, Federal Reserve Board
DATE & TIME: Tuesday, December 8, 1987; 12:30 to 2:00 p.m.
LOCATION: Room 2736, GAO Building, 441 G Street, N.W., Washington, D.C.
(Please call 523-1760 at least one day in advance to assure building entrance.)
SPONSOR: Economics Section
ABSTRACT: The first part of this study discusses five theoretical rationales that could underlie one or more of the time-series in BEA's index of leading indicators. The second part develops a model of a cost-minimizing firm that embodies several of the rationales, and finds that "shocks" to the model produce some results that accord with the time-series behavior of leading indicators but some that do not. The third part uses the same model to develop a "theory-based" set of leading indicators -- an alternative to the current set. Preliminary empirical tests of the theory-based indicators are promising.

TOPIC: Cognition and Survey Measurement Research in Federal Statistical Agencies
SPEAKERS: Elizabeth Martin, Census Bureau, Deborah Bercini, National Center for Health Statistics, Mark Palmisano, Bureau of Labor Statistics
CHAIR: Monroe Sirken, NCHS
DISCUSSANT: Tom Jabine, Statistical Consultant
DATE & TIME: Thursday, December 10, 1987; 1:30 to 3:30 p.m.
LOCATION: Room 1-39, Center Building 2, National Center for Health Statistics, 3700 East West Highway, Hyattsville, Maryland (Numbers are limited, so please call the Office of Research and Methodology at (301)436-7111 if you will be attending.)
SPONSOR: Interagency Committee on Cognition and Survey Measurement
ABSTRACT: Recently, NCHS, BLS, and the Census Bureau have begun programs that apply the theories and methods of cognitive psychology to the design of survey instruments. This colloquium will describe these innovative approaches to the reduction of non-sampling error in Federal statistics, and attempt to evaluate their effectiveness.

PROGRAM ABSTRACTS (continued)

TOPIC: An Estimated Continuous - Time Dynamic - Optimization Investment Model with Adjustment Costs and Gestation Lags

SPEAKER: Peter Zadrozny, Census Bureau

CHAIR: Frank Diebold, Federal Reserve Board

DISCUSSANTS: David Gordon, Federal Reserve Board, Richard Koss, General Motors Corporation, and Dennis Richard, World Bank

DATE & TIME: Tuesday, December 15, 1987; 12:30 to 2:00 p.m.

LOCATION: Room BE-069, Forrestal Building, 1000 Independence Avenue
(Bring your copy of announcement to gain admission to building.)

SPONSOR: Economics Section

ABSTRACT: A model in which firms' investment decisions are subject to adjustment costs and gestation lags is estimated with U.S. industry data. In the model a representative firm maximizes expected discounted cash flow with respect to decisions on investment in capital, other inputs, and output. The firm's maximization problem is set up as a linear-quadratic continuous-time optimal control problem and is explicitly solved. The solution's nonlinear parameter restrictions are used in maximum likelihood estimation of the continuous-time structural parameters. The exact, implied process of the discrete-time data is used in estimation, as is the fact that the data are mixtures of monthly and quarterly stocks and flows. The present paper is apparently the first attempt to simultaneously, rigorously, treat adjustment costs and gestation lags. The gestation lag is treated as a structural parameter to be estimated, which is unrelated to the sampling intervals. This necessitates the use of a continuous-time model.

TOPIC: Presenting Multivariate Survey Data

SPEAKERS: Mike Brick, Westat, and Chuck Cowan, Center for Education Statistics

DATE & TIME: Wednesday, January 27, 1987; 12:30 to 2:00 p.m.

LOCATION: Room 2736, GAO Building, 441 G Street, N.W., Washington, D.C.
(Please call 523-1760 at least one day in advance to assure building entrance.)

SPONSOR: Methodology Section

ABSTRACT: This talk will discuss some of the issues that arise in the presentation and analysis of data from complex sample surveys conducted for the government. The talk will focus on categorical data; the issues include reporting the multivariate nature of the data, multiple comparisons and significance levels, and the use of adjustments in chi-square statistics.

One issue involves the use of methods for dealing with multivariate data in reports for the public. The concern is that for proper analysis of data in which the classification variables are correlated, some multivariate techniques should be used. However, in many publications this level of analysis is difficult to accomplish within publication time schedules and also hard to present to the public. Also these techniques add further complexity to the analysis itself. In particular, adjustments to chi-square statistics are presented for a particular application. Some options for compromises are discussed.

Many techniques exist for adjusting the significance levels to compensate for multiple comparisons. The application of these methods for reports is more complicated than simple textbook examples for experiments. Some approaches and the implications of them are discussed.

OTHER ANNOUNCEMENTS

Press Release on the 20th Interface Symposium

The Twentieth Symposium on the Interface of Computing Science and Statistics will be held at the Sheraton International Conference Center in Reston, Virginia on April 21-23, 1988. The Symposium is a long-standing interdisciplinary forum focusing on the interface between computing science and statistics. The focus of the 20th Symposium will be on computationally intensive methods in statistics. Professor Brad Efron of Stanford University will give the keynote address on this theme and sessions are organized with this theme in mind.

Sessions will include invited talks, contributed papers and exhibits. An opening night reception is planned as well as a banquet. An extensive exhibit area is also planned. Contributed presentations will be selected by the Program Committee and will last for 20 minutes. Authors who wish to contribute a paper should submit a written abstract no later than January 15, 1988. The abstract should be no longer than one page. Abstracts of invited and contributed papers will be available at the Symposium. Abstract and inquiries should be sent to: Professor Edward J. Wegman, Interface Symposium, P.O. Box 7460, Fairfax Station, VA 22039-7460, 703/323-2723.

Conference Proceedings will be published. Camera-ready copy of the contributed and invited papers will be due on June 1, 1988. The Proceedings will include both invited and contributed papers.

The Conference will be held at the Sheraton International Conference Center in Reston, VA (suburban Washington, D.C.) on the 21st through 23rd of April. April is an extremely attractive time in Washington coinciding with the blooming of the famous cherry blossoms. Free shuttle service is provided by the Sheraton to and from nearby Dulles Airport. A commercial airport bus service is available from Washington National Airport. Hotel rates are quite reasonable for the peak of the tourist season (\$79 for a single on Wednesday and Thursday and \$45 for a single on Friday and Saturday). A block of rooms has been reserved and attendees are expected to make their own reservations. Because this is a peak tourist season, early reservations are strongly encouraged. Reservations can be made by calling (800) 325-3535 or (703) 620-9000. Make sure to identify yourself as being associated with the Interface Symposium. Registration and welcoming reception will take place on Wednesday, April 22.

The regular registration fee for members of the cooperating societies (ASA, IMS, SIAM, and ORSA)

is \$105 and for non-members is \$130. A preregistration discount is being offered to those who register early. For registrations received before January 15, 1988 the registration fee will be \$95 for members of cooperating societies and \$120 for non-members. The registration fee will include a copy of the proceedings and the opening night reception. For further information, to be put on the INFA mailing list and/or to register, please contact Ed Wegman at the above address.

Census Bureau's Fourth Annual Research Conference Announced

The Census Bureau's Fourth Annual Research Conference (ARC IV) will be held March 20-23, 1988, at the National Clarion Hotel in Arlington, Virginia, only 1/2 mile from National Airport and three blocks from the Metro. ARC IV will comprise a mix of topics ranging from new survey techniques and census survey automation to measurement problems with foreign trade statistics. For further information contact Ms. Maxine Anderson-Brown, ARC Conference Coordinator, Office of the Director, Bureau of the Census, Washington, D.C. 20233, 301/763-1150.

Science Fairs 1988

The Washington Statistical Society sponsors awards in six Washington metropolitan area science fairs. These fairs are held on Saturday mornings during the months of March and April at locations in Northern Virginia, Prince George's County, Montgomery County, and the District of Columbia. Volunteers are needed to review projects and determine the WSS award winners. This is the third year of WSS participation in area science fairs. It has been a very successful activity which promotes awareness of statistical concepts in scientific research as well as statistics as a professional discipline among mathematically and scientifically oriented secondary school students. Volunteer judges in the past two years have enjoyed the opportunity to interact with these students and represent the statistical profession in this setting. The only time required is one Saturday morning in the Spring, plus one weekday lunchtime organizational meeting in early March.

If you would like to serve as a judge or would like more information about this project, please call Susan Ellenberg (office: 496-4836; home: 299-9039) within the next few weeks.

OTHER ANNOUNCEMENTS (continued)

Washington Statistical Society Coffee Mugs Now Available

A traditional holiday favorite, Washington Statistical Society coffee mugs with the WSS logo, in non-holiday blue, will be available for only \$3 at the Society's annual wine and cheese party on December 9. Impress your friends. Get them while they last!

Fellowship Announcement

American Statistical Association/NSF/Census Bureau Research Fellowships and Associateships, beginning around September 1, 1988, represent a unique opportunity to make major advances in methodological or subject matter research related to Census Bureau operations or data. These positions are at the Census Bureau for one year or shorter periods. General areas for research are social and demographic studies, economic measurement and analysis, and statistical methodology and computing.

Requirements: for Fellows, Ph.D. and research record in relevant field (e.g., Statistics, Demography, Sociology, Economics, Geography); for Associates, at least two years graduate study in relevant field plus computer experience. Salaries are

commensurate with qualifications and experience; also, fringe benefits and a travel allowance are provided. Length of term and start date are flexible -- usually six months to a year beginning September 1. Positions start as early as June 1, 1988; and the term can be split into two or more parts. Apply by January 8, 1988 for Fellows and February 15, 1988 for Associates. For information on specific research topics and on how to apply, contact Dr. William Bell, ASA/NSF/Census Research Program, Room 3228-4, SRD, Bureau of the Census, Washington, D.C. 20233 (301-763-3957).

Announcement of Continuing Education

On Monday, December 14, there will be a **Conference on Missing Data, Imputation, and Repeated Measures**. Donald Rubin of Harvard University and Roderick Little of UCLA will present an overview of their recent work, including material from the short course which they gave at the ASA 1987 annual meetings. Cosponsoring this conference are the Washington OR/MS Council and the Center for Education Statistics. Call Doug Samuelson at 703-478-9808 for further information.

EMPLOYMENT COLUMN

Deadline for inserting notices is 5 (five) weeks before the publication date. Send notices and requests to: Evelyn R. Kay, 520 22nd Street, N.W., Washington, D.C. 20037, (202) 331-1153.

JOB OPENINGS

STATISTICIAN

Applied statisticians with interest in public health are invited to apply for an unusual position with a well-established nonprofit research group with a stable funding base. The successful candidate will play an integral role in the work of a multidisciplinary team of high-level research professionals (including engineers, psychologists, epidemiologists, and attorneys). As internal consultant, working statistician, and manager of contract research, you will need excellent written and oral communication skills, including the ability to interpret results for nonstatisticians and to formulate practical approaches to complex problems, computer skills, and a good working familiarity with the methodological issues of quasi-experimental design, categorical data analysis, generalized linear modeling, and time series analysis. Qualifications must include an advanced degree (M.S. or Ph.D.) in either Statistics or Social Science/Public Health and a proven record in applied research including publications in professional journals. Highly competitive salary, excellent benefits, and generous technical support for the right person. Apply to: VP, Research, Insurance Institute for Highway Safety, Watergate 600, Suite 300, Washington, D.C. 20037.

JOB OPENINGS (continued)

The George Washington University's Department of Statistics/Computer & Information Systems has several openings beginning Fall 1988, as follows:

1. **Two Assistant Professors**, tenure accruing, in the computer science area. The positions require a Ph.D. in computer science or a closely related area. Applicants should have a strong commitment to both teaching and research in computer science or statistical computing.
2. **One Assistant or Associate level**, tenure-track position in Statistics. The position requires a Ph.D. in statistics with strong potential for research at the assistant level or an excellent research record at the senior level. Applicants should have an interest in both theoretical and applied statistics. The major areas of research interest in the Department currently include biostatistics, nonparametric inference, statistics in public policy, multivariate analysis, and statistical computing.

Candidates for any of these positions should send applications including curriculum vitae, relevant reprints, and three letters of reference to Professor Robert Smythe, Chairman, Department of Statistics/Computer & Information Systems, The George Washington University, Washington, D.C. 20052. Applications must be received by February 15, 1988. EOAA

STATISTICAL PROGRAMMER

Will be responsible for programming procedures to compute sampling errors for multi-stage sample designs. Degree in statistics helpful. Must have experience writing SAS procedures, *not* just running SAS. Send resume to Westat, Inc., Dept. DM, 1650 Research Boulevard, Rockville, MD 20850.

STATISTICIANS (GS 5 through 12)

The Office of Personnel Management is recruiting for these positions to use government-wide personnel data bases to present and analyze Federal Civilian Employment Statistics. At the entry levels, computing skills and familiarity with computer software (SAS, SPSS) and microcomputers is expected. Experience with quality assurance-related activities of large data files is desired at the higher grades. For information, call 202/632-4527.

Send SF-171 application forms to: U.S. Office of Personnel Management, Office of Workforce Information, Personnel Systems and Oversight Group, Room 7303, 1900 E Street, N.W., Washington, D.C. 20415, ATTN: John Curnow.

STATISTICIAN (GS 7/9/11)

The Bureau of Justice Statistics, Department of Justice is seeking a Statistician in the National Crime Survey Unit. Specific duties will include preparing yearly reports presenting preliminary and final NCS rate data in BJS Bulletins; preparing a yearly detailed report on *Criminal Victimization in the United States* using a detailed tabulation package; performing significance testing of NCS data; preparing special NCS data runs using computer software packages and developing other NCS reports. The pay range is \$18,358-\$35,326 depending on prior pay and experience. Please call Randi Mendelsohn (202/724-7725) for additional information and application. Mail applications to Office of Justice Programs, Personnel Division, 633 Indiana Avenue, N.W., Room 603A, Washington, D.C. 20531.

JOB OPENINGS (continued)**MATHEMATICAL STATISTICIANS**

The Census Bureau has openings in the Statistical Support Division for entry level, career ladder, technical and computer programming positions. The work is related to sample design, survey research, estimation and inference, evaluation and data analysis, statistical modeling, missing data, response error, imputation procedures, administrative records, matching techniques, quality assurance, and application of Deming techniques.

The Census Bureau offers special higher salary rates for mathematical statisticians. Salaries start at \$21,388 for a Bachelors degree or equivalent, \$26,169 for a Masters degree or equivalent, and \$29,897 for a Ph.D. or equivalent. Salary depends on qualifications and experience. Equal opportunity employer; U.S. citizenship is required. Please send your resume to John Thompson, Statistical Support Division, Room 3783-3, Census Bureau, Washington, D.C. 20233.

MATHEMATICAL STATISTICIAN (GS 12/13)

Position available for a Ph.D. or an M.S. with experience in sample design, survey methods, and data analysis. A knowledge of SAS and the application of transformation methods to limited dependent variable models would be desirable. Incumbent will act as technical consultant in studies of the decline in value and the physical mortality of business plant and equipment to be conducted by the Office of Depreciation Analysis, as well as participate in the general research and policy analysis activities of that office. Send resume/SF-171 to: Tom Neubig, Director, Office of Tax Analysis, Room 4217, Main Treasury, Washington, D.C. 20220.

MATHEMATICAL STATISTICS

Excellent opportunity with a small, but growing, high quality, internal consulting group of Ph.D. mathematicians and statisticians at the Central Intelligence Agency. Position involves development of statistical and operations research techniques and their application to a wide variety of intelligence problems, such as analysis of weapons systems characteristics, arms control monitoring issues, strategic capabilities of major nations, agricultural crop production estimates, and political instability. Many applications require the development of novel methods in such areas as sampling theory, econometric techniques, non-linear and integer optimization techniques, applied probability and multivariate analysis. Candidates should have or be within one year of completing a Ph.D. in operations research, mathematical statistics or related field, less than three years experience, a working knowledge of FORTRAN or equivalent computer languages, and the ability to present ideas well in oral and written form for both technical and non-technical clients. EOE - U.S. citizenship is required. Washington based post with some travel. Starting salary range \$35,000-\$40,000 commensurate with training and experience. Forward resume and graduate transcript to: Recruitment Activity Officer, Department S (AL11), P.O. Box 1925, Washington, D.C. 20013.

JOB APPLICANTS

Listed below is a brief description of the qualifications of an applicant seeking employment. Employers interested in interviewing this applicant should notify Mrs. 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.

CODE #88-02

Position wanted: SURVEY STATISTICIAN (GS 14) in Federal government, Washington, D.C. area

Education: Yale, Master of Science Public Health; Harvard, BA Social Science

Experience: 10 years Federal government survey research planning and design; expertise in telephone, CATI, and automated personal methodologies

Areas of interest: Survey research, public administration



P.O. Box 70843
Washington, D.C. 20024-0843

NON-PROFIT ORG.
U. S. POSTAGE
PAID
FALLS CHURCH, VA.
PERMIT NO. 186