ESTADISTICA

Journal of the Inter American Statistical Institute

•		
Volume XIV, No. 52	Contents	September 1956
ARTICLES		
Aplicaciones Estadísticas en la	as Ciencias Físicas en los Estad	os Unidos (traducción) WILLIAM R. PABST. IR.
Al.	asiem de Edead em los Comese d	
		le Población de 1950 en Centro
America y Mexico	al Decree Its As County	Jorge Arias B.
Aproximación de la Tasa Anu	al Promedio de Cambio	JACOB S. SIEGEL
Sources, Procedures of Compi	lation, and Types of Current In	
		DOMINION BUREAU OF STATISTICS
Programación del Desarrollo l		
		ÍSTICA DE LAS NACIONES UNIDAS
Collection of Mental Disease S	Statistics in the United States	Morton Kramer
Problemas en la Aplicación de		pecuarias en la América Latina
•		INA DE ESTADÍSTICA DE LA FAO
		Hechos Recientemente en Países
		s relating to Statistics. Institute
Affairs. Statistical News.	Publications.	

Published quarterly Annual subscription price \$3.00 (U.S.)

INTER AMERICAN STATISTICAL INSTITUTE

Pan American Union Washington 6, D.C.

ECONOMETRICA

Journal of the Econometric Society
Contents of Vol. 24, No. 4 - October, 1956

Hollis B. Chenery and Kenneth S. Kretschmer..... Resource Allocation for Economic Development
John C. H. Fei...... A Fundamental Theorem for the Aggregation Problem of Input-Output Analysis
Jerome K. Percus and Leon Quinto....... Application of Linear Programming to Competitive Bond
Bidding P. J. Verdoorn. Complementarity and Long-Range Projections

HABVET WAGNER. An Eclectic Approach to the Pure Theory of Consumer Behavior
CONRAD A. BLYTH. The Theory of Capital and Its Time Measures
J. D. Sargan. A Note on Mr. Blyth's Article
MAURICE MCMANUS. On Hatanaka's Note on Consolidation
E. BURGER. On the Stability of Certain Economic Systems
BOOK REVIEWS E. Burger.

Don the Stability of Certain Economic Systems
Book Reviews
He Alphabet of Economic Science (Philip H. Wicksteed). Review by George J. Stigler
Elementi di politica economica razionale (Eraldo Fossati). Review by Gerhard Tintner
Bussiness Concentration and Price Policy (NBER). Review by Merton J. Peck
Einführung in die Betriebswirtschaftslehre (M. Lohmann). Review by Eberhard Fels
Theory of Games as a Tool for the Moral Philosopher (R. B. Braithwaite). Review by David Hawkins
Etude Econometrique de la Demande de Tabac (Roger-Paul Congard). Review by R. L. Basmann
Monopoly and Competition and Their Regulation (E. H. Chamberlin, Ed.). Review by F. H. Hahn
Die Landwirtschaft in der volkewirtschaftlichen Entwicklung. Eine Betrachtung über Beschäftigung und Einkommen (H. Weber). Review by Kaethe Mengelberg
Marginal-Cost Price-Output (Burnham P. Beckwith). Review by Nancy D. Ruggles
Die Nachfrage nach Nahrungsmitteln und ihre Abhängigkeit von Preis- und Einkommensänderungen: Ein
ökonometrische Untersuchung von Wirtschaftsrechnungen Hamburger Angestellten- und Arbeiterhaushaltungen
(Heinz Gollnick). Review by Eberhard Fels

Published Quarterly

Subscription rates available on request

The Econometric Society is an international society for the advancement of economic theory in its relation to statistics and mathematics.

Subscriptions to Econometrica and inquiries about the work of the Society and the procedure in applying for membership should be addressed to Richard Ruggles, Secretary, The Econometric Society, Box 1264, Yale University, New Haven, Connecticut.

BIOMETRIKA

Volume 43

Contents Parts 3 and 4, December 1956

ROYSTON, Erica. Studies in the history of probability and statistics. III. A note on the history of the graphical presentation of data. WILLIAMS, C. B. Studies in the history of probability and statistics. IV. A note on an early statistical study of literary style. WALKER, A. M. A goodness of fit test for spectral distribution functions of stationary time series with normal residuals. GANI, J. Sufficiency conditions in regular Markov chains and certain random walks. DERMAN, C. Some asymptotic distribution theory for Markov chains with a denumerable number of states. LAWLEY, D. N. A general method for approximating to the distribution of likelihood ratio criteria. JAMES, G. S. On the accuracy of weighted means and ratios. BAILEY, N. T. J. On estimating the latent and infectious periods of measles. II. Families with three or more susceptibles. BAILEY, N. T. J. Significance tests for a variable chance of infection in chain-binomial theory. WHITTLE, P. On the variation of yield variance with plot size. WATSON, G. S. and WILLIAMS, E. J. On the construction of significance tests on the circle and the sphere. QUE-NOUILLE, M. H. Notes on bias in estimation. ROY, S. N. & MITRA, S. K. An introduction to some non-parametric generalizations of analysis of variance and multivariate analysis. KAMAT, A. R. A two-sample distribution-free test. BARTON, D. E. Addendum. The limiting distribution of Kamat's test statistics. RAY, W. D. Sequential analysis applied to certain experimental designs in the analysis of variance. BROADBENT, S. R. Lognormal approximation to products and quotients. BLISS, C. I., COCH-RAN, W. G. and TUKEY, J. W. A rejection criterion based upon the range. CROW, E. L. Confidence intervals for a proportion. intervals for a proportion.

intervals for a proportion.

Miscellanea
Contributions by Anscombe, F. J., Blank, A. A., Cox, D. R., David, F. N., David, H. A., Douglas
J. B., Gilbert, N. E. G., Huttly, N. A., Moore, P. G., Reiersøl, O., Ruben, H., Stuart, A., Taylor,
J., Watson, G. S.

GANI, J.; and Tracts for Computers XXVI

Reviews

Other Books Received

The subscription price, payable in advance, is 45s. inland, 54s. export (per volume including postage). Cheques should be drawn to Biometrika and sent to "The Secretary, Biometrika Office, Department of Statistics, University College, London, W.C. 1." All foreign cheques must be in sterling and drawn on a bank having a London agency.

MATHEMATICAL REVIEWS

A journal containing reviews of the mathematical literature of the world, with full subject and author indices

Publication of this journal is sponsored by the American Mathematical Society, Mathematical Association of America, Institute of Mathematical Statistics, London Mathematical Society, Edinburgh Mathematical Society, Union Matematica Argentina, and others.

Subscriptions accepted to cover the calendar year only. Issues appear monthly except July. \$20.00 per year.

Send subscription order or request for sample copy to

AMERICAN MATHEMATICAL SOCIETY 80 Waterman Street, Providence 6, Rhode Island

JOURNAL OF THE

ROYAL STATISTICAL SOCIETY

Series B (Methodological)

Vol. XVIII, No. 1, 1956

Some Tests of Significance with Ordered VariablesF. N. DAVID AND N. L. JOHNSON. (With Discussion). Economic Choice of the Amount of ExperimentationP. M. Grundy, M. J. R. Healy, and D. H. Rees. (With Discussion).
On a Test of Significance in Pearson's Biometrika Table (No. 11)
A Test of Significance for an Unidentifiable Relation P. A. P. Moran.
Confidence Limits for the Gradient in the Linear Functional Relationship
Algebraic Theory of the Computing Routine for Tests of Significance on the Dimensionality of Normal Multivariate Systems
Some Notes on Ordered Random Intervals
A Sequential Test for Randomness. D. J. Bartholomew.
Partitions in More Than One Dimension
On the Estimation of Small Frequencies in Contingency Tables
An Elementary Method of Solution of the Queueing Problem with a Single Server and Constant Parameters D. G. Champernowne.
Random Queueing Processes with Phase-type Service
The Within-Animal Bioassay with Quantal Responses

The Royal Statistical Society, 21, Bentinck Street, London, W. 1

SKANDINAVISK AKTUARIETIDSKRIFT

1955 - Parts 3 - 4

Contents

B. W. CONOLLY
Fractical Applications
ERICH MICHALUPSome Approximation Formulae of the Effective Rate and the Force of Interest
Ivo Lah Das Restglied der Taylorschen Reihe des Rentenbarwertes und einige Formeln des Zinsfussproblems für grosse Zinsspannungen
S. VAJDA Analytical Studies in Stop-Loss Reinsurance. II
G. P. M. HESELDENSome Inequalities Satisfied by Incomplete Beta Functions
CARL PHILIPSON
Eksamen i Forsikringsvidenskab og Statistik ved Københavns Universitet
Översikt av utländska aktuarietidskrifter

Annual subscription: \$5.00 per year
Inquiries and orders may be addressed to the Editor,
GRANHÄLLSVÄGEN 35, STOCKSUND, SWEDEN

SANKHYA

The Indian Journal of Statistics Edited by P. C. Mahalanobis

Vol. 17, Part 2, 1956

On The Recovery of Inter Block Information Varietal Trials
Classification And Analysis of Linked Block Designs
On the Dual of a PBIB Design and a New Class of Designs with Two Replications
C. S. Ramakrishnan
Fractional Replication in Asymmetrical Factorial Designs and Partially Balanced Arrays I. M. Charrayarti
A General Class of Quasifactorial and Related Designs
Two Associate Partially Balanced Designs Involving Three Replications J. ROY AND R. G. LAHA
Some Series of Balanced Incomplete Block Designs
The Concept of Asymptotic Efficiency
A Note on the Determination of Optimum Probabilities in Sampling without Replacement Des Raj

Annual Subscription: 30 rupees (\$10.00), 10 rupees (\$3.50) per issue.

Back Numbers: 45 rupees (\$15.00) per volume; 12/8 rupees (\$4.50) per issue.

Subscriptions and orders for back numbers should be sent to

STATISTICAL PUBLISHING SOCIETY

204/1 Barrackpore Trunk Road

Calcutta 35, India

THE INSTITUTE OF MATHEMATICAL STATISTICS

(Organized September 12, 1935)

OFFICERS

President:

Alexander M. Mood, General Analysis Corporation, 710 Wilshire Blvd., Santa Monica, California

President-Elect:

L. J. Savage, Committee on Statistics, University of Chicago, Chicago 37, Illinois

Secretary:

G. E. Nicholson, Jr., Department of Statistics, University of North Carolina, Chapel Hill, North Carolina

Treasurer:

A. H. Bowker, Department of Statistics, Stanford University, Stanford, California

Editor:

T. E. Harris, The RAND Corporation, 1700 Main Street, Santa Monica, California

The purpose of the Institute of Mathematical Statistics is to encourage the development, dissemination, and application of mathematical statistics.

Membership dues including a subscription to the ANNALS OF MATHE-MATICAL STATISTICS are \$10.00 per year for residents of the United States or Canada and \$5.00 per year for residents of other countries. There are special rates for students and for some other classes of members. Inquiries regarding membership in the Institute should be sent to the Secretary of the Institute.

(Continued from inside front cover)

matical formulae. The difference between capital and lower-case letters should be clearly shown; care should be taken to avoid confusion between such pairs as zero and the letter O, the numeral 1 and the letter l, numeral 1 used as superscript and prime ('), alpha and a, kappa and k, mu and u, nu and v, eta and n, etc. Subscripts or superscripts should be clearly below or above the line. Bars above groups of letters (e.g., $\log x$) and underlined letters (e.g., x) are difficult to print and should be avoided. Symbols are automatically italicized by the printer and should not be underlined on manuscripts. Boldface letters may be indicated by underlining with a wavy line on the manuscript; boldface subscripts and superscripts are not available. Complicated exponentials should be represented with the symbol exp. In writing square roots the fractional exponent is preferable to the radical sign. Fractions in the body of the text (as opposed to displayed expressions) and fractions occurring in the numerators or denominators of fractions are preferably written with the solidus; thus (a+b)/(c+d) rather than $\frac{a+b}{c+d}$.

Authors will ordinarily receive only galley proofs. Fifty reprints without covers will be furnished free. Additional reprints and covers will be furnished at cost.

(Contents, continued from front cover)

Report of the Detroit Meeting	1198
Report of the Seattle Meeting	1201
Report of the Annual Membership Meeting, August 23, 1956	1201
Report of the President of the Institute	1208
Report of the Secretary of the Institute	1211
Report of the Editor of the Annals	1211
Publications Received	1212
Institutional Members	1212

MEETINGS OF THE INSTITUTE TENTATIVE SCHEDULE

EASTERN REGIONAL MEETING—Washington, D. C.
March 7-9, 1957

ANNUAL MEETING—Atlantic City, New Jersey
September, 1957

Abstracts should be submitted in duplicate to the Editor, preferably on abstract blanks, which can be obtained from the IMS Secretary. Abstracts must be received at least 47 days before the first day of the meeting at which they are to be presented, indicating whether presented by title or in person. (Only one contributed paper may be given in person at any one meeting.) They may be printed prior to the publication of the report of the meeting. Those received by April 30 will appear in the September Annals, by July 31 in December, etc. Abstracts should be limited to 200 words or the equivalent, and should avoid displayed expressions and complicated formulae. They can be accepted from non-members of the IMS only if transmitted by members.