

INTERNATIONAL STATISTICAL INSTITUTE

N° 25

JUNE 1991

THE SURVEY STATISTICIAN

**INTERNATIONAL ASSOCIATION
OF SURVEY STATISTICIANS**

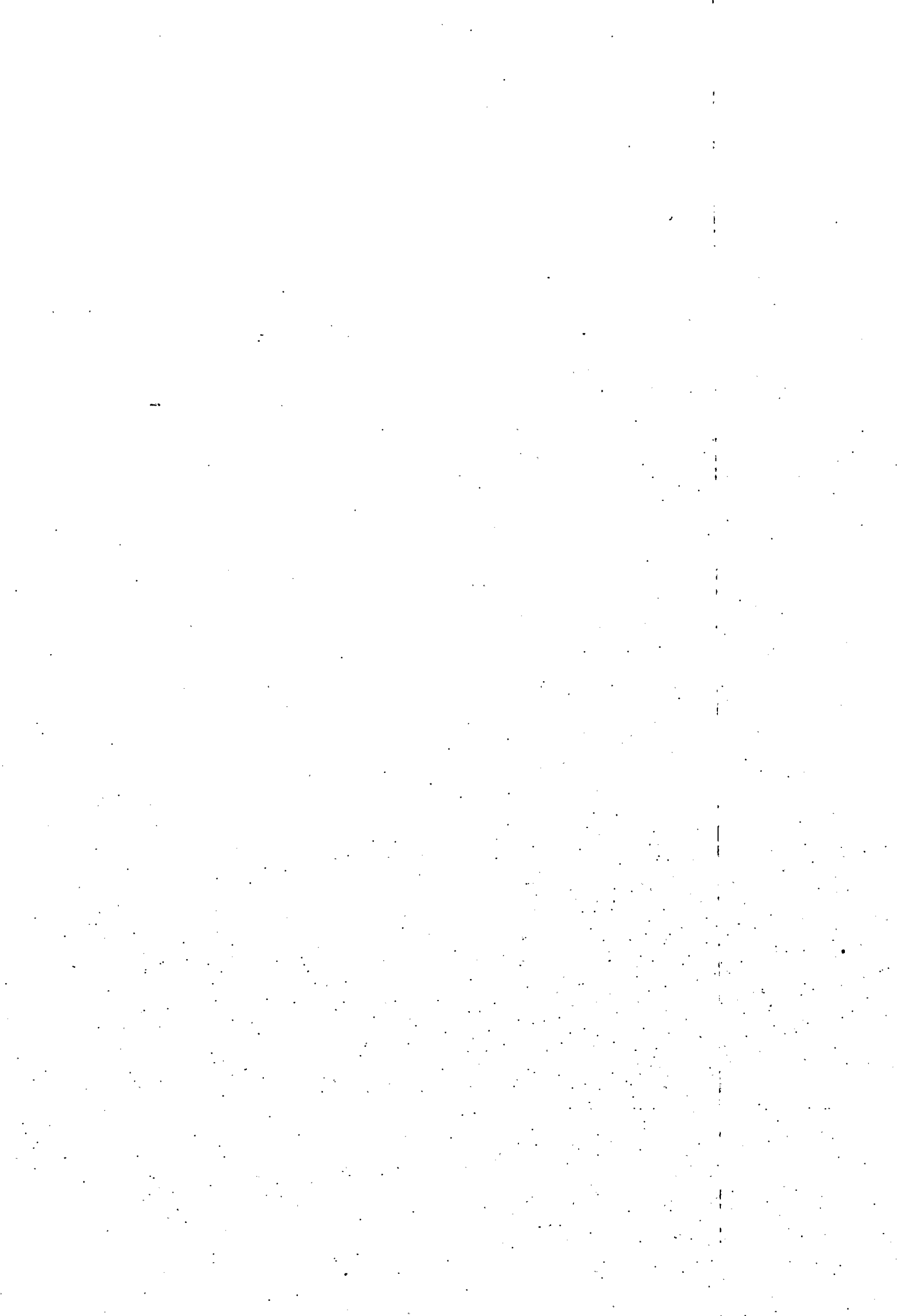
ias

Editor : Anne Marie Vespa-Leyder

***Association Internationale
des Statisticiens d'Enquêtes
A.I.S.E. - I.A.S.S.
c/o INSEE - 18, Bd Adolphe Pinard
75675 PARIS CEDEX 14***

CONTENTS

I	EDITORIAL	p. 3
II	NEWS FROM THE ASSOCIATION	p. 4
	2.1. Election	p. 4
	2.2. Obituary	p. 4
III	ISI MEETINGS	p. 6
	3.1. Cairo session	p. 6
	3.2. Florence session	p. 8
IV	LOCAL REPRESENTATIVES (list)	p. 8
V	ANNOUNCEMENTS	p. 13
VI	COUNTRY REPORTS	p. 14
	6.1. Canada	p. 14
	6.2. Trinidad and Tobago	p. 15
	6.3. Nigeria	p. 16
	6.4. Central America and Panama	p. 17
	6.5. Spain	p. 18
	6.6. Germany	p. 22
	6.7. United States	p. 25
	6.8. Côte d'Ivoire	p. 26
	6.9. France	p. 27
	6.10. Algeria	p. 27
	6.11. Philippines	p. 30
VII	STATISTICAL ABSTRACTS	p. 31
VIII	QUESTION/ANSWER	p. 34
IX	PUBLICATIONS	p. 37



I - EDITORIAL

Dear colleagues,

This is the last issue of the journal prior to the ISI session in Cairo. The team from the Survey Statistician will be there and will welcome any suggestions that you may have to improve this publication and make it more interesting as well as richer in international matters relating to survey statistics.

The Association's Local Representatives in different countries play an important role in sending us country reports that enable all members to learn how surveys are conducted around the world.

I would like to thank Statistics Canada for graciously arranging for translation of articles for the journal over the past few years.

I am looking forward to meeting those of you who will be attending the meeting in Cairo.

Anne-Marie VESPA-LEYDER
Editor, the Survey Statistician

II - NEWS FROM THE ASSOCIATION

2.1. Election of Officers and Councils Members of the Association - Results.

President-Elect : L. LYBERG (Sweden)

Vice-Presidents : B. KIREGYERA (Zambia)
I.P. DAVID (Philippines)

Scientific Secretary : K.M. WOLTER (USA)

Council Members : D.J. TREWIN (Australia)
B.N. CHINNAPPA (Canada)
A. GONZALEZ VILLALOBOS (Argentina)
J.M. REMPP (France)
J. BIELECKI (Poland)
R.M. BERMUDEZ GOMEZ (Spain)

2.2. Obituary

MORRIS H. HANSEN, 1910-1990

by Benjamin J. Tepping and Joseph Waksberg

Morris H. Hansen, president of the American Statistical Association in 1960, died on October 9, 1990, at the age of 79. He was born in Thermopolis, Wyoming, on december 15, 1910. He received a B.S. degree from the University of Wyoming in 1934 and a master's degree in statistics from American University in 1940.

He came to Washington D.C., to work for the U.S. Bureau of the Census in 1935 and remained in the Washington area for the remainder of his life. At the Census Bureau he became, in fairly rapid succession, chief of the Statistical Research Division, Assistant Director for Statistical Standards, and Associate Director for Research and Development. He retired from the Census Bureau in 1968 and joined Westat, Inc., then a small statistical research, consulting, and service organization, as statistical advisor and senior vice-president. In 1986 he became Chairman of the board, a position he held until the time of his death. He was active as a working statistician, consultant, author, and member of advisory committees until virtually the time of his death. His last paper (with B.J. Tepping) appeared only a week before he died, in the September issue of the Journal of the American Statistical Association.

He was President of the American Statistical Association in 1960 and of the Institute of Mathematical Statistics in 1953. When the International Association of Survey Statisticians was organized, he was its first President. He was an honorary member of the International Statistical Institute, an honorary fellow of the Royal Statistical Society, and a member of the National Academy of Sciences. A more detailed obituary will appear in the American Statistician.

SLOBODAN S. ZARKOVICH

Dr. Slobodan S. Zarkovich died May 7 at the age of 78 years.

Zarkovich was elected and ordinary member of the international statistical institute (ISI) in 1960. He was a member of the international association of survey statisticians from the very beginning ; for a short period he served as its President. He was a fellow of the American Statistical Association.

Zarkovich received his basic academic education in Yugoslavia, his native country. In 1955, he joined the U.N. Food and Agricultural Organization (FAO). When he retired in 1974 from FAO, he was chief of its methodological section. Having retired from FAO, Zarkovich returned to Yugoslavia and laid the foundation of the Institute of Statistics in Belgrade.

Early in his work at FAO, Zarkovich realized the great potential of statistics for improving the living conditions in the third world. Promoting more and better use of statistics in the third world became a true mission, to which Zarkovich devoted much time and efforts even after his retirement from FAO.

Especially, Zarkovich went to great efforts - sometimes generating forceful resistance from some colleagues - to transform ISI (including its sections) into an organization more apt to give substantial help to the third world. Zarkovich felt that words and promises were not enough ; they had to be supplemented by actions.

We who had the privilege of getting to know Zarkovich well, will remember him as a great colleague, who was prepared to sacrifice his own convenience and comfort for making life better for those people who were not lucky to be born in some wealthy part of the world. Zarkovich was prepared, and he showed it.

WILLIAM A. WORTHAM

William A. "Bill" Wortham, a member of the association since 1952, recently passed away in Bryan, Texas. An independent counsellor-expert, Mr. WORTHAM developed quality control micro-software, accounting systems for the production cost of a variety of products, artificial intelligence application to control systems and models of financial planning. With a doctorate degree from Oklahoma State University, he was put in charge of weapon system evaluation at Chance Vought Aircraft in Dallas, Texas. From 1957 to 1964, Mr. Wortham created, staffed and managed the departments of operational research, quality term planning, and diodes manufacturing at Texas Instruments. He also acted as ranking researcher in the small-caliber weapons machanization project for the Department of the Army, as manager in the development of NASA's long-term planning model as well as Federal Energy Administration special assistant for environnement conservation and protection in Washington, D.C. A professor of Industrial Engineering at Texas' A & M University, he headed the department from 1965 to 1972, before going on to North Carolina's A & T University to teach the same speciality and, in turn, head the department from 1981 to 1982.

Commemorative donations may be addressed to the A. William Wortham Memorial Scholarship, Texas A & M University, College Station, TX 77843.

III - ISI MEETINGS

3.1. Cairo Session

TWO DAY WORKSHOP ON SURVEY SAMPLING IN DEVELOPING COUNTRIES

Cairo, September 7-8, 1991

Presented by : Graham Kalton, University of Michigan
Colm O'Muircheartaigh, London School of Economics
Nanjamma Chinnappa, Statistics Canada
Anis Maitra, United Nations Statistical Office

This workshop will be held just prior to the 48th Session of the International Statistical Institute. The emphasis of the workshop will be on practical aspects of survey sampling in developing countries. Examples from demographic and household surveys and from agricultural surveys will be drawn upon. The participants should have experience in the planning, implementation, evaluation or analysis of surveys. The workshop will be of most benefit to those who are involved in survey practice in developing countries.

Participants should have the ability to work in English.

Topics to be covered will include :

- frame construction,
- sampling methods, including stratification, multi-stage sampling and area sampling process,
- maintaining control of sampling processes,
- sampling weights and variance estimation,
- evaluation methods.

The registration fee will be \$ 300.00 (US).

If you would like more information about this workshop, please contact David Binder promptly as space will be limited.

David Binder
Economic Statistics & Research
Business Survey Methods Division
11 FRH Coats Building
Statistics Canada
Ottawa Ontario Canada K1A 0T6
Tel 613 951 0980

**MEASUREMENTS ERRORS IN SURVEYS
SHORT COURSE**

Date : Sep., 11, 1991

**Registration Fee : \$ 150.00 (US)
(Reductions possible for Developing
Country Participants)**

**Place : CAPMAS Offices, Nasr City, Cairo
Presented by : Prof. Paul Biemer
New Mexico State University**

Course Objectives :

- 1. Provide an overview, from a statistical perspective, of the current state of knowledge and methodological research in survey measurement error.**
- 2. Develop skills in designing and implementing surveys to reduce the effects of measurement errors in the final result.**
- 3. Develop skills in designing and implementing studies to assess the effects of measurement error on the survey estimates.**

Text :

The course text will consist of photocopied chapters of the forthcoming book entitled **Measurement Errors in Surveys**, edited by **Biemer, Groves, Lyberg, Mathiowetz, and Sudman**.

Content :

- 1. Introduction to Measurement Errors in Surveys.**
- 2. Recent Results related to the Questionnaire as a Source of Error.**
- 3. Respondent Errors.**
- 4. Interviewer Errors.**
- 5. Recent Results in the Study of Respondent-Interviewer Interaction.**
- 6. Modelling Measurement Errors and their Effects on Estimation and Data Analysis.**
- 7. Current Major Research Thrusts and Speculation on the Future of the Field.**

Suggested Participants :

The course should be useful for anyone who is involved in analyzing data and is recommended for both practitioners and teachers of statistics. The participants are expected to have some familiarity with a first course in regression analysis and a modest background in matrix algebra.

This short course will be held as part of the scientific programme of the ISI Session taking place in Cairo from 9-17, September 1991.

For information and registration :

Contact Denise Lievesley at the I.S.I. permanent office.

3.2. Florence Session

Programme committee members for the 1993 IASS Meeting in Florence :

Ms. Sanjurjo (Argentina) has also agreed to serve on the IASS Programme Committee for the 1993 session. Her name should be added to the list of members published in Survey 'Statistician n° 23 of June 1990

Topics for the 1993 IASS Meeting :

Mrs B.N. Chinnappa reports that there were 166 responses to the survey on suggested topics for the 1993 meeting. This represents approximately 15 % of IASS members. The response by broad groups of countries was 58 from North America (25 % response), 51 from Europe, Australia and International Organizations (15 % response) and 57 from other countries (11 % response). Respondents added about 40 more topics to the 44 listed in the survey. The committee will be narrowing down this list based on the priorities given by respondents, on whether the topic was covered at a recent session, and whether there has been significant new work on the topic.

IV - IASS LOCAL REPRESENTATIVES

* Note to Local Representatives :

The representatives are reminded that country reports must be short (one page maxi), otherwise they will no longer be translated by Statistics Canada which kindly offers free of charge the translation of the journal.

ALGERIA	Mr. Elyes BENTABET	5 rue Yahia Benaiche (ex Valentin) 16000 ALGER CENTRE
ARGENTINA	Mrs Clyde CHARRE DE TRAB UCHI	French 2740 1425 BUENOS AIRES
	Mrs Clara BADLER	Bd Orono 610 P2° 2000 ROSARIO
BANGLADESH	Mr. Siddiquer RAHMAN	Director, BBS 19, Outer Circular Road Rajarbagh DHAKA-17
BELGIUM	Mr. Louis LOHLE-TART	Rue Americaine, 81 B. 1050 BRUXELLES
BOTSWANA	Mrs F. MODISE	Central Statistical Office Private Bag 0024 GABORONE
BRAZIL	Mrs E. PINHO DE CASTRO SILVA	Rua Tabapua 308 Apto 52 04533 SAO PAULO
	Mr. Wilton DE OLIVEIRA BUSSAB	Universidade de Sao Paulo Instituto de Matematica e Estatistica CP 20570 AQ IQUATEMI SAO PAULO 01451
CANADA	Mr. Gordon BRACKSTONE	78 Charing Road NEPEA ONTARIO K2G4C9
CHINA	Mr. Hui WU	State Statistical Bureau BEIJING
COTE D'IVOIRE	Mr. Bakary DAHO	Direction de la Statistique 01 BP V 55 ABIDJAN 01

CUBA	Mr. Luis SILVA	Instituto Superior de Ciencias Medicas de la Habana Vice Rectoria de Invest. e Posgrado Avenida 25 N. 15005 PLAYA, HABANA 16
CZECHOSLOVAKIA	Mr. Vaclav CERMAK	Severozapadni 11 n° 18 PRAHA 4 14100
DENMARK	Mr. Finn MADSEN	Danish National Institute of Social Research Borgergade 28 DK 13000 KOBENHAVN-K
FRANCE	Mr. Jean-Michel REMPP	INSEE 18 boulevard Adolphe Pinard 75675 PARIS CEDEX 14
GERMANY	Mr. Gotthard FORBRIG	Wilhelm Pieck Universität Klement Gottwald St. Nr.6 ROSTOCK 1 2500
	Pr. Heinrich STRECKER	Rosenst. 11 D 8130 STARNBERG
GHANA	Mrs Elizabeth A. ALLOTEY	Industrial Census Coordinator Ghana Statistical Service P.O. BOX 1098 ACCRA
HUNGARY	Mr. Adam MARTON	Central Statistical Office Keleti K. N° 5-7 BUDAPEST 1525
INDIA	Mr. J. ROY	Indian Statistical Institute 203 Barrackpore Trunk Road CALCUTTA 35
INDONESIA	Mrs Sri Budianti SUKMADI	Central Bureau of Statistics J.L. DR Sutomo 8 P.O. Box 3 JAKARTA

ISRAEL	Mrs Malka KANTOROWITZ	Central Bureau of Statistics HAKIRYA - Romena JERUSALEM
ITALY	Mr. Claudio QUINTANO	Via Plinio il Vecchio n° 43 Castellamare di Stabia 80053
	Mr. Andrea GIOMMI	Dipartimento Statistico Universita di Firenze Via Curtatone 1 FIRENZE 50123
JAPAN	Dr. C. HAYASHI	Institute of Statistical Mathematics 4-6-7 Minami-Azabu TOKYO 106
KENYA	Mr. Philip GACHUKI	Central Bureau of Statistics P.O. Box 30266 NAIROBI
LEBANON	Mr. François FARAH	M.A.S.S. BP 208 HAZMIETH
LIBYA	Mr. Farouk EL BISHITI	Statistics Department Faculty of Science Al Fateh University P.O. Box 13574 TRIPOLI
MALI	Mr. Bakary SACKO	ESPR C/O ODEM SEVARE MOPTI
MEXICO	Dr. Edmundo F. BERUMEN TORRES	INEGI Insurgentes Sur 795 12 Piso MEXICO D.F. C.C. 03810
NETHERLANDS	Mr. S.J.M. DE REE	28, Vuurbloem Str. 2317 LEIDEN

NEW-ZEALAND	Mr. Stephen KUZMICICH	Department of Statistics Private Bag 85 Molesworth Street WELLINGTON
NIGERIA	Mr. O.O. AJAYI	Federal Office of Statistics P.M.B. 12528 LAGOS
NORWAY	Mr. I.B. THOMSEN	Central Bureau of Statistics Dronningsgate 16 OSLO
PANAMA and CENTRAL AMERICAN COUNTRIES	Mr. David FITCH	Instituto de Nutricion de Centro America y Panama Apartado Postal 1188 GUATEMALA, CA GUATEMALA
PAPUA-NEW GUINEA	Mr. John SHADOW	National Statistical Office P.O. Wards Strip
PERU	Mrs Leonora LAGUNA	581 Belisario Flores LIMA 14
PHILIPPINES	Mr. Burton ONATE	University of the Philippine at Los Banos College, LAGUNA PHILIPPINES (3720)
SENEGAL	Mme Awa THIONGANE	Direction de la Statistique B.P. 116 DAKAR
SPAIN	Mrs Carmen ARRIBAS	Instituto Nacional de Estadistica Paseo de la Castellana 183 28016 MADRID
	Mrs Iztueta ASKUE ANJELES	Instituto Vasco de Estadistica-Servicio de Metodologia y Diseno C/ DATO 14-16 01005 VITORIA-GASTEIZ (ALAVA)

SWEDEN	Mr. Anders CHRISTIANSON	Annandgsvagen 7, 2TR S-125 35 ALVSJO
SYRIA	Mr. A. MALEK AL AKHRAS	Office of the Prime Minister-Central Bureau of Statistics DAMASCUS
TRINIDAD-TOBAGO	Mr. Carl ATHERLEY	Central Statistical Office 23 Park Street PORT OF SPAIN
TURKEY	Mr. Oztas AYHAN	Department of Statistics Middle East Technical University ANKARA 06531
UNITED KINGDOM	Mr. Roger THOMAS	O.P.C.S. St. Catherine House 10 Kingsway LONDON WC 2B 6JP
U.S.A.	Dr. Daniel KASPRZYK	4906 Colonel Contee PL UPPER MARLBORO MD 20772-2875

V - ANNOUNCEMENTS

Census Bureau's 1991 Annual Research Conference.

The Census Bureau's 1991 Annual Research Conference has been held March 17-20, 1991 at the Holiday Inn Crowne Plaza in Arlington, Virginia, only 1/2 mile from National Airport and three blocks from Metro. ARC 1991 comprises a mix of topics such as editing, estimation in the presence of outliers, statistical methods for use with missing data, the effect of sample attrition on estimation and analyzing data in the presence of missing data and nonsampling errors. For further information contact Ms. Maxine Anderson-Brown, ARC Conference Coordinator, Office of the Director, Bureau of the Census, Washington, DC 20233, 301/763-1150.

13th course on Sampling by the Spanish National Institute

From April 8th to April 26th has been held the 13th Course on Sampling with Application to Household Surveys, followed by a seminar on the Consumer Price Index, within the programme of technical cooperation with Latin-American and Caribbean Countries. 22 persons from different countries of the region attended.

Dr. Berumen, technical advisor of the UN Statistical office, participated in the course giving some lectures on the NHSCP (National Household Survey Capability Programme).

VI - COUNTRY REPORTS

6.1. Canada

by G. BRACKSTONE

Following the 1991 Census of population, Statistics Canada will be conducting two post-censal surveys. One is a survey of disabled individuals and the other is a survey of Canada's aboriginal peoples.

The post-censal survey methodology involves the use of responses to the Census questionnaire to identify the sub-group of interest and to obtain their demographic and socio-economic characteristics. The census field structure is then used to collect additional information of particular relevance to this special sub-population. Based on experience with the 1986 post-censal survey, this approach has proved to be a cost-effective means of collecting data for a relatively small and scattered sub-group of the population and of producing estimates for small domains. The use of the census as a survey vehicle also ensures a good coverage of the population and provides useful information for data collection, sample allocation and estimation.

The sample design for the survey on disability is a two-stage stratified sample plan using Census enumeration areas as the primary sampling units. Census questions on activity limitations and long-term disabilities included on the "long form", which is completed by a 20 % sample of households, are used to stratify persons into two strata. Those persons who answer "yes" to either of the Census questions have a high probability of being disabled and will be sampled at a relatively high rate (about 7,5 %), while those who answer "no" to both questions have a low probability of being disabled and will then be sampled at a lower rate (about 2,2 %). A total sample size of about 150 000 persons is selected in Canada. Separate questionnaires have been developed for children and adult disabled people. In each case a first screening section identifies disabled persons to whom the questions in the second section are asked. Screening for adults and seniors is carried out using the Activities of Daily Living developed by the WHO for physical disabilities. Mental disabilities are also covered. The second section asks questions concerning the barriers faced by disabled persons in their daily lives.

The Aboriginal peoples survey covers North American Indian, Metis and Inuit populations in Canada and comprises a survey of Indian Reserves and settlements, and a survey of aboriginal people living off reserve. Separate questionnaires have been developed for children and adults. The structure of these questionnaires is similar to that for the disability survey. An initial screening section identifies aboriginal people and a subsequent section deals with their circumstances and needs.

A sample of about 110 000 persons is selected on reserve and a sample of 65 000 elsewhere. The sample design for the off-reserve survey is a two-stage stratified sample similar to that for the survey of disabled persons. For the on-reserve survey, a systematic sample of persons is drawn in each reserve. Census questions on aboriginal origins and indian registration included on the long form are used to preidentify the target population.

Preliminary results from both surveys are expected to be available in the fall of 1992. For further information on either of these surveys please contact Mrs. Adele Furrie, Statistics Canada, Tunney's Pasture, Ottawa, Ontario, CANADA, K1A 0T6, (613)-951-4531.

6.2. Trinidad and Tobago

by Mr. ATHERLEY

Continuous Sample Survey of Population (C.S.S.P.)

Introduction

The continuous sample survey of population (C.S.S.P.) is a multipurpose household survey designed principally to collect current data on the characteristics of the labour force on a continuing basis.

The C.S.S.P. also provides sampling frames for collection of data on other subject of interest to Government such as :

- (a) Household income and expenditure data
- (b) Survey of the handicapped
- (c) Poverty survey
- (d) Fertility survey

C.S.S.P. design

Sample size

Essentially the CSSP is a two stage sample design. The overall sampling fraction for the CSSP is $1/120$ of the population (N). The decision to employ a $1/120$ sample of the population was based on past experience of C.S.O.'s data collection capability and affordability, that is the size of the C.S.O.'s Survey budget. There were also technical considerations to use in each quarter's three (3) replicates/subsamples out of nine (9) replicates/subsamples for the grand sample. The sample therefore for each quarterly survey, is conducted with a sampling fraction of $1/120 = 1/40 \times 3/9$. This can be described as the product of the sampling probability of selection of the grand sample of $1/40$ and three (3) replicates out of nine.

Two stage sampling

The grand sample consists of nine (9) subsamples in which the sampling units (clusters of households) are selected with probability of $1 : 40$. At the first stage, the sampling frame is constructed of Census Enumeration District (E.D.'s) which are described as Primary sampling Units (P.S.U.'s).

To facilitate rotation of subsamples, first stage sampling units are selected with a probability of $(1/(40 \times 9))$ in order to form a grand sample of nine (9) subsamples/replicates.

In the second stage, one cluster of households is randomly selected from the selected P.S.U. with probability proportional to size (P.P.U. sampling). The number of clusters of households in a particular E.D. (P.S.U.) reflects its size. The ultimate sampling unit (members of the cluster) is chosen by systematic random sampling throughout the chosen E.D. (after an update listing of the P.S.U.) with a probability equal to the measure of size assigned to the E.D. (P.S.U.).

Stratification

The P.S.U. were stratified within domains of study, so that strata within domains are internally homogeneous with respect to character such as occupation and industry.

Field operation

The field operations which are conducted over a three (3) month period : - a round of the survey, entail two (2) phases. Each month of a round of the survey is divided into 2 periods of approximately two (2) weeks, so that listing and enumeration could be carried out in alternate weeks. The first phase of a period within a month consists of listing all the households in the selected primary units. The second phase consists of enumerating a randomly selected cluster of households.

Duration

The continuous sample survey of population is conducted four (4) times a year, once every quarter. During each round of the survey approximately 2400 households are enumerated.

Data derived from the survey

Since 1963, the CSSP has yielded data on characteristics of the labour force employment and unemployment, which have been produced in Quaterly Bulletins as well as in Annual reports, providing approximately sixty (60) tables with accompanying charts. The data derived from the survey have extensive usage primarily in the monitoring of the employment situation, income levels and sectoral distribution of the work force. Quite recently, the survey has served as a medium for collecting information on :

- (a) the incidence of illness and disability in the population (1990)
- (b) the informal sector - characteristics and activities (1991 and ongoing).

6.3. Nigeria

by O.O. AJAYI

The Nigeria demographic and Health survey (NDHS) was conducted by the federal office of statistics (FOS) with the Institute for resource development/macro systems (IRD) providing technical assistance to the Project. It is part of the world-wide demographic and Health surveys programme being undertaken in 42 countries and also being substantially funded by the united states agency for international development. The NDHS

had been designed to collect data for the planning, monitoring and evaluation of family planning and health programmes and to assess the demographic situation in Nigeria. The data collection was carried out between april and october 1990.

Sample design and implementation

The NDHS sample was drawn from the national master sample for the 1987/1992 National Integrated Survey of Households (NISH) programme being implemented by the FOS. NISH, as part of the United Nations National Household Survey Capability Programme, is a multi-subject household-base survey system.

The NISH master sample was created in 1986 on the basis of the 1973 census enumeration areas (E.A.). Within each state, EAS were stratified into three sectors (urban, semi-urban, and rural), from which an initial selection of approximately 800 EAS was made from each state. EAS were selected at this stage with equal probability within sectors. A quick count of households was conducted in each of the selected EAS, and a final selection of over 4,000 EAS was made, with probability proportional to size. This constitutes the NISH master sample from which the NDHS EAS were subsampled.

Prior to the NDHS selection of EAS, the urban and semi-urban sectors of NISH were combined into one urban category, while the rural retained the NISH classification. A sample of about 10,000 households in 299 EAS was designed with twofold oversampling of the urban stratum, yielding 132 urban EAS and 167 rural EAS. The sample was constructed so as to provide national estimates as well as estimates for the four Ministry of Health Zones.

A new listing of housing units and households was conducted in each of the selected 299 EAS. A systematic sample of households was selected from the new listings, with a fixed take of 34 households in each EA. It was decided to use a fixed take of households in order to have better control of the sample size (given the variability in EA size of the NISH sample). Thus, the NDSH sample is a weighted sample, maintaining the twofold oversampling of the urban sector.

Nearly 10,000 households were selected for the NDHS sample, of which 8,999 were successfully interviewed. The shortfall is due largely to households being absent or vacant at the time interviewers canvassed the area. Of the 9,171 households which were occupied, 98 percent were successfully interviewed, and 9,200 women were identified as eligible for interview. Interviews were completed with 8,781 women, resulting in a response rate of 95 percent. The preliminary results of the survey was released in march 1991.

6.4. Central America and Panama

by Dr. D.J. FITCH

Project Hope is working in two departments of the Western Highlands of Guatemala to improve the nutritional status of the children, particularly with regard to vitamin A. In the first phase, to be completed in the summer, 1991, they are conducting a survey measuring the level of this vitamin among children under six and obtaining some food intake data. Later phases will seek to improve diets and will include help with home gardens. There are some 50 municipios in their study population and, as they want to establish long term relationships with the health workers, officials, and the people, they

are drawing samples in all the municipios. The interesting thing about this survey is that they set out to draw simple random samples of households and that this is proving practicable ! They are using a method involving a hand held computer and programs written by Jorge Matute of the Instituto de Nutricion de Centro America y Panama (INCAP). A report of the method is to be given at the Cairo meetings. More information on the vitamin A project can be obtained from Dr. Noe Orellana, Project Hope, Edificio Capuano, Zona 1, Quetzaltenango, Guatemala, C.A.

6.5. Spain

by C. ARRIBAS

In 1989, the National Institute of Statistics has carried out several surveys in the economic field, them being of two types : the structural and the short-term surveys. The following is a short summary of some of them.

1. Structural economic statistics

1.1. Industrial survey

The aim of this annual survey is to get information on the industrial activity in Spain in the previous year and in the industrial enterprises, that is in those whose economic activity is of an industrial character : energy, extractive or mining industry, manufacturing industry and the building industry (divisions 1, 2, 3, 4 and 5 of the CNAE-74).

These industrial enterprises are classified into 90 sectors, each of which is considered an independent population whose enterprises are classified by strata according to the number of workers and of which a sample is obtained that is self-weighted at the level of the stratum.

For each sector there is a different type of questionnaire asking for information on work and production as well as on the macroeconomic characteristics (gross added value, gross capital formation, total variation of stocks, etc.).

The questionnaires are collected either by mail or by agents.

The annual publication contains the data both for the whole of the country and according to Autonomous Communities.

1.2. Survey on home trade

The periodicity of this survey, is over a year, and its aim is to research the characteristics of those enterprises whose main activity lies in wholesale and retail trade (groups 61 and 64 of the CNAE-74, respectively).

It is composed by an area frame (census sections) which is submitted to sampling and a list frame (including medium and large enterprises or enterprises with filial branches) which is researched upon exhaustively.

The estimation process of the area frame is based on single stage stratified sampling where the census section is the sampling unit, there being a small number of them which are chosen with probability one. The selected sections are researched exhaustively.

Information is thus obtained for the whole of the country as well as for the Autonomus Communities.

1.3. Survey on the structure of restaurants, bars and coffer-shops

This survey has been planned in 1989 and has been carried out for the first time at the beginning of 1990. Its purpose is to get a knowledge of the structural and short-term variables of the economic activity of restaurants, coffee-shops and bars as well as of the value added created by this sector. The need of such a study arises from said sector's repercussion on the final consumption of our economy and from its spectacular expansion in recent years.

The population of the survey is made up of the enterprises located in the national territory except Ceuta and Melilla, whose main activity in 1989 has been that of restoration and who, in that same year have paid the tax permit corresponding to any of the activities implied by sectors 651, 652 or 653 of the CNAE-74.

The directories which have been used as well as the available information have brought about the division of the population into three regions : País Vasco, Navarra and the rest of Spain. In each of them a one-stage stratified sampling has been carried out according to different geographical and economic variables.

2. Short term economic statistics

2.1. Wages survey in industry and services

This continuous, national and quarterly survey researches all the establishments of 5 or more workers and provides wages and hours worked indicators.

The survey is extended to the totality of industry, building, trade and hotel business, transports and communications, banks and insurances.

In all, 45 branches of economic activity is researched into, each of which is considered an independent population whose establishments are classified in strata according to the number of workers.

The quarterly sample is determined for a prefixed sampling error in the estimation of the variables : total number of workers, average salary per hour and average salary per person. This sample is repeated without any variation throughout the four quarters of the year and is divided into three equal parts, each of which corresponds to one month (1st, 2nd or 3rd) of the quarter.

On the other hand, an annual rotation of 20 % is applied in order to facilitate the admission of new units (enrolments), reason why the quarterly sample is divided into 5 sub-samples, one of which is replaced at the end of each year.

With the use of systematic sampling, a stratified sample is selected among the establishments of less than 200 workers, whereas the remaining strata are studied exhaustively. Each quarter, this survey researches about 6,700 industrial and services establishments.

In 1989, some reforms have been introduced to extend the covering and the population of workers, to simplify the questionnaire and to obtain regional results.

2.2. Survey the circulation of travellers in tourist establishments

The main purpose of this monthly survey is to obtain different indicators on the circulation of travellers at the tourist agencies and with the information provided by 8,000 hotels and campings.

Each province represents an independent population where an exhaustive research is made on the population of campings ; that of the hotels has been classified by strata according to their category : those with a sufficient amount of establishments are sampling strata whereas the remaining ones are investigated exhaustively.

The information is obtained both for the whole of the country and the provinces and is referred spanish as well as foreign travellers, to the nights they spend at the establishments and to the degree of occupation occurred at the hotels and campings classified by. It is provided by the hotels and the campings through a mixed procedure using the mail and the interviewers.

Main surveys carried out by the National Institute of Statistics in 1990 in the demographic and social fields.

1. Labour force survey

Continuous quarterly survey whose purpose it is to provide data on the characteristics of the Spanish population as to its activity, inactivity, employment and unemployment.

It is used as a basis for the community survey on labour force and provides detailed quarterly information for the whole of the country as well as the main characteristics for the autonomous communities and the provinces.

The survey is concerned with the population living in family dwellings, that is in those inhabited all the year or most of it as the usual or lasting dwelling.

The type of sampling used is two-staged and with stratified first-stage units (census sections). The second-stage units are made up of the family dwellings, them not being submitted to any sub-sampling.

The sampling size is of 62,000 family dwellings. The first-stage units are selected with a probability which is proportional to the amount of family dwellings they contain. In each section, the dwellings are selected with the same probability with the help of a systematic random start sampling. A sixth of the sample is renewed quarterly.

Use is made of ratio estimators, the auxiliary variable being the population projections.

2. Continuous survey of family budgets

This survey is introduced in 1985 due to the need of knowing the origin and the amounts of family incomes and their transformation into consumer expenditure.

It is a continuous, quarterly survey which collects information about 3,200 family dwellings and provides quarterly and annual estimations on the consumer expenditure and incomes of Spanish families.

The design of this survey is similar to that of the above mentioned labour force survey, for as both surveys are concerned with families, their design is based on that of the General Population Survey.

The method for collecting the information is a mixed one : on the one hand the direct noting of all the payments effected during the reference week, and on the other the report by interviews of the payments effected during the rest of the reference periods.

The sample is distributed uniformly throughout the quarter, an eighth of each of the periods being partially renewed. The families remain in the sample for two years (8 quarters) and are interviewed 8 times throughout this period.

3. Basic survey of family budgets

The project of this survey has been elaborated in 1989 and its execution started in April 1990 ; it is to be carried out from the latter date through March 1991.

This survey will provide the information which is needed to update the goods and services that compose the "shopping basket" of the consumer price index as well as their weights and reference stratum ; it will facilitate the knowledge of the expenditure and income structure of the families and the estimation of the national private consumption included in the national accounts.

Its design is similar to that of the above mentioned surveys as it is based on the design of the General Population Survey.

The duration of the survey is a year and the sample is distributed uniformly throughout its 52 weeks.

The sampling size of the first-stage units is of 3,000 census sections and an average of 9 dwellings per section are researched, which means a total sample of about 27,000 family dwellings.

The sample is subdivided into four quarterly independent sub-samples, which provides two advance estimations for each of these periods.

The collection of information is carried out with the help of mixed noting and interviews.

The estimators to be used are of the ratio type.

4. Hospital Morbidity survey

This survey is carried out annually with the purpose to know the general morbidity occurring in the hospitals of the country according to the final or latest diagnosis ; it also determines the average stay at the hospital by types of diagnosis.

The scope of the survey is national and includes all the public and private hospitals in the country.

The sampling used is two-stage stratified, where the hospitals are the first-stage units and the patients are the second-stage ones.

The hospitals are stratified according to their work. A totality of 14 strata are considered.

The size of the total sample is 75 % as to the number of hospitals and approximately 10 % of the total volume of registered patients.

The selection of patients at each hospital is carried out with of a systematic sampling.

The estimators used are expansion estimators in a stratified sampling.

5. Survey on the time schedule of university professors

The main purpose of this survey is to obtain the coefficients of the time dedicated to research among university professors of the different scientific fields or disciplines and according to the administrative categories ; this allows a more accurate estimation of the resources assigned by the Sector of Higher Education to the I + D, both as far as human and financial resources are concerned.

The survey has been carried out for a year, from August 1989 to July 1990.

The survey is concerned with all the professors of Faculties and Higher Technical Schools, with the exclusion of teachers at the university schools and colleges.

A stratified random sample has been used and the stratification variables are the scientific field or discipline and the administrative category. In all, 15 strata have been established.

The sample size is around 4,000 teachers. The allocation among the universities and strata is proportional, and the teachers are selected by a systematic sampling.

6.6. Germany (Former German Federal Republic) by H. STRECKER

A meeting of the section of the German Statistical Society "Methodik statistischer Erhebungen" took place in Stuttgart on 2 October 1990 with H. Strecker in the chair and with the following 4 papers read :

1. W. Neubauer, Universität Frankfurt : Erhebungstechniken, Erhebungssysteme und Erhebungsstrategie (Surveys in Economic and Social Statistics, Technical, Systematic and Strategic Aspects).

The methods of surveys should be conceived in a broad framework, which includes not only "technical" aspects (for example sampling techniques). "Systematic" aspects concern the efficiency of data collection : the integration into a consistent system of surveys, the selection of the most appropriate "channel of information", and the use of matching procedures. "Strategic" elements should support the acceptance of statistical surveys by the public.

2. R. Wiegert, Universität Tübingen : Registerevaluierungen und Volkszählungsergebnisse - zur Problematik partieller Substituierbarkeit (Evaluation of Administrative Registers and the Data of Censuses - Remarks about Their Partial Substitutions).

Prior to the last population census in the Federal Republic of Germany there was a long and controversial discussion about the further need of total censuses. Some people had the idea that census data could be sampled simply by evaluating the existing administrative registers. To get more detailed information on these facts the German Central Bureau of Statistics (Statistisches Bundesamt) charged the Institute of Applied Economics (Institut für Angewandte Wirtschaftsforschung Tübingen) with an investigation in this field. The features of the study concerned were presented in the talk. The main result of the investigation can be expressed in the short statement : There is no chance at all to substitute population censuses as a whole by register evaluations, partly there may be some ways and means to use registers and the information in their records complementarily.

3. R. Stadler, Statistisches Landesamt Baden-Württemberg, Stuttgart : Ansätze zur Nutzbarmachung der Satellitenfernerkundung für die amtliche Statistik (Steps to involve satellite remote sensing into the system of official statistics).

After a review of the present technological state of satellite remote sensing three different projects to involve this new technique into the system of official statistics are being discussed :

- STABIS-project (Statistisches Bundesamt, Wiesbaden) to register the real land use with the help of air-photographs, not yet with satellite photographs.
- the EC-project "Regional Inventories" (Joint Research Center, Ispra) as used by the "Society of Remote Sensing Applications", Munich, Which needs a costly ground survey.
- the author's project (Statistisches Landesamt Baden-Württemberg, Stuttgart, in collaboration with the Institute for Navigation, University of Stuttgart) to register acreage and yield of annual crops with the help of satellite remote sensing.

This latter project (funded by the Baden-württemberg Agricultural Ministry) uses for the first time the sampling fields of the "Besondere Ernteterminung" as training areas for the evaluation of the satellite photographs. The results of a multitemporal and multi-spectral classification by Maximum Likelihood based on connected scenes of SPOT-XS and LANDSAT-TM are promising ; conclusions for the official agricultural statistics are far-reaching.

4. W. Radermacher, Statistisches Bundesamt, Wiesbaden :
Qualitätsbeurteilung statistischer Daten aus der Fernerkundung (Remote Sensing in Statistics - the Assessment of Data Quality) Statistical Data should be up-to-date and accurate. More than that the empirical data should fit the ideas of data users and theoretical conceptions. How good this can be realized depends on the system of work, the financial/personal restrictions. This is the background in front of which the statistical use of remote sensing and the problems of measuring data quality have been demonstrated.

Report by the Federal Statistical Office on the Introduction of federal statistics in the area of the former GDR.

In early 1991, most of the statistics initiated by the legislative bodies of the Federal Republic will be compiled without restriction also in the area of the former German Democratic Republic (GDR).

This relatively speedy supply of statistical data meeting West-German standards has been prepared by intensive and early cooperation between the Federal Statistical Office and the Statistical Office of the GDR (Statistisches Amt - STAT).

Already in late March 1990, a working group of the Federal Statistical Office was set up in Berlin in order to improve and coordinate the manifold contacts that existed already at that time with STAT and other institutions of the GDR compiling statistics. The working group "German Statistics" has since that time been permanently in touch with STAT and at regular, almost weekly, meetings it has developed important foundations and created the prerequisites for adjusting GDR statistics to federal statistics.

In view of the limited labour capacities, it was first of all necessary to set priorities as to the statistics which should be adjusted first. As a guideline served the major statistical fields mentioned in the first state treaty (on the economic, monetary and social union) which are labour market, production, retail sales, prices and foreign trade. For these statistical spheres, first results were presented already for July 1990 - in part already in accordance with the concepts of federal statistics. Moreover, STAT compiled data on the origin and appropriation of the gross domestic product according to the Systeme of National Accounts - SNA.

The technical instruction of the STAT personnel was carried out by the competent staff of the Federal Statistical Office and the statistical offices of the German Laender, not only by individual discussions but also by protracted stays of short-term experts at the STAT, by instructing STAT personnel in Wiesbaden or at the statistical offices of the Laender as well as by comprehensive training measures.

6.7. United States

by D. KASPRZYK

The Research Triangle Institute under contract to the National Institute on Drug Abuse (NIDA) is collecting and analysing data from the 1991 National Household Survey on Drug Abuse (NHSDA). NHSDA is a nationwide survey of over 31,100 individuals who are randomly chosen from 125 selected cities and counties around the U.S. Survey participants will complete a questionnaire about their use of tobacco and alcohol, illicit drugs, as well as nonmedical use of prescription drugs. The 1991 survey is the eleventh in a series of surveys that have been conducted approximately every two years since 1971. For more information on the 1991 survey contact NIDA, Division of Epidemiology and Prevention Research, 5600 Fishers Lane, Rockville, MD 20857, USA.

In 1982 The Institute for Survey Research of Temple University conducted the New Beneficiary Survey (NBS) for the Office of Research and Statistics of the Social Security Administration. This survey collected extensive data about health, economic status, work, marital history, household composition, and child rearing from 18,599 persons newly entitled to receive Social Security benefits in 1981. At this time, a new survey has been designed to reinterview the same set of beneficiaries (or their survivors) 10 years later. The survey, called the New Beneficiary Followup (NBF), will collect information on changes in economic status (income and assets) and health status, and factors associated with change in status. For more information, contact Dr. Howard Iams, Social Security Administration, 4301 Connecticut Avenue, N.W., Van Ness Centre, Room 207, Washington, D.C. 20008, 202-282-7092.

In August 1991, the Social Statistics Section of the American Statistical Association sponsored a session of contributed papers on "International Progress in Computer Assisted Survey Information Collection". Karl Kindel (U.S. Bureau of the Census) organized the session. Participants in the session included Wouter Keller (Netherlands Central Bureau of Statistics), Rolly Jamicson (Statistics Canada), A.J. Manners (Office of Population Censuses and Surveys, United Kingdom), and Karl Kindel (U.S. Bureau of the Census). The papers will be published in the 1991 Proceedings of the Social Statistics Section, available in the Spring of 1992 from the American Statistical Association, 1429 Duke Street, Alexandria, VA 22314-3402, USA, Call or write Karl Kindel, Field Division, Room 3025-3, Bureau of the Census, Washington, D.C. 20233 (301-763-7696) if you wish more information on the session.

On February 14, 1991 Michael J. Boskin, Chair of President Bush's Council of Economic Advisers, announced that President Bush approved a package of recommendations for improving economic statistics in the United States. The package of recommendations fall into seven broad areas :

- 1) modernizing the National and International Economic Accounts to improve their accuracy, breadth, and international comparability ;
- 2) increasing the coverage of the service sector ;
- 3) separating quality and inflation changes in price data ;
- 4) improving the establishment payroll and household surveys ;
- 5) tracking changes across industries in a dynamic economy ;
- 6) preparing for future statistical workforce needs by creating a Center for Survey Methods at a Washington D.C. area university ;

- 7) preparing legislation to provide a standardized mechanism for limited sharing of confidential statistical information solely for statistical purposes between statistical agencies under stringent safeguards. While these recommendations must be approved by the U.S. Congress, the recommendations represent a significant commitment by the Bush administration to federal statistics.

The World Health Organization (WHO) and the United Nations Environment Program (UNEP) are sponsoring an international program to promote human exposure assessments to environmental pollutants. Currently 14 countries are members of the Human Exposure Assessment Locations (HEAL) Program. Human exposure assessment, a marriage of survey and statistical methodology with the environmental sciences, produces estimates of personal exposure to environmental pollutants. In late August 1991, WHO/UNEP in cooperation with three nations, the United States, Sweden and the Federal Republic of Germany, held a workshop to explain these methodologies to scientists and statisticians as part of the HEAL Program. Furthermore, at the September ISI conference, Mel Kollander of the U.S. Environmental Protection Agency and David Mage of the World Health Organization presented a paper on the HEAL Program. If anyone is interested in receiving further information contact Mel Kollander (FAX 202-382-4968) or David Mage (FAX : 41-22-791-0746).

6.8. Côte d'Ivoire

Study of migration and urbanization

by Bakary DAHO

When the March 1988 general census of the population and the habitat was being planned, provision was made for a follow-up study on human migration.

Plans called for this survey to be carried out in March 1989, one year after the general census. However, it was postponed in order to allow the Ivory Coast to take part in a network of studies on migration and urbanization in Western Africa.

The value of the network, which was initiated by the International Development Research Centre and set up during a seminar held in Abidjan in January 1989, lies in the possibility of planning a broader study of the migratory phenomenon in the sub-region of Western Africa.

Senegal, Mali, Niger, Burkina-Faso, Guinea and Nigeria belong to the network. The network's activity is financed by a consortium of lenders, with the International Development Research Centre as the syndicate leader. Part of the financing for the survey in the Ivory Coast will come from the World Bank.

Various technical meetings were held in Abidjan (January 1989), Nairobi (February-March 1990) and Bamako (June 1990) and resulted in a single questionnaire for all the countries belonging to the network. However, each country has been given the option of adding questions to suit its specific characteristics.

The migration study will be with retrospective observation of events. It will cover urban and rural areas throughout the country.

The Ivory Coast carried out the pilot study between March 13 and 27, 1991. It covered 500 households, which had been selected in urban and rural areas.

The data gathered have been codified and they are now being entered. This operation should take about ten days. The processing and analysis of the data should be completed by June 15, 1991.

As the study itself should start on August 1, 1991, the sample will be selected in May. The sample will cover approximately 30,000 households and will be taken proportionally from the urban and rural populations. The 1988 census will be the basis for the survey and the Census Districts will be used as the Primary Units.

6.9. France Labour Force Survey

by A.M. VESPA-LEYDER

The labour force survey has been conducted annually since 1959. Since 1968, it has been carried out across a large sample.

The survey is first and foremost a source of information on unemployment. However, it also reveals activity rates ; levels of training ; and jobs by status, profession, level of qualification, activity sector, working week and salary. The survey moreover, supplies data on mobility over the year, the position of persons within their respective households, and housing. From 1992 onwards, it will furnish regional reference data.

The questionnaire is modified with each new population census. This was last done in 1990. Since 1975, the questionnaire has allowed employment and unemployment to be calculated according to the categories defined by the International Labour Office (BIT). This is a 1/300 survey of around 2,000 areas in small geographic zones of about 40 housing units each, in which all of the households are questioned. A "special" sample is added to the area samples. This "special" sample is intended to represent new buildings constructed since the execution of the census being used as the basis for division into areas. In total, visits are made to about 88,000 housing units and approximately 67,000 households. Nearly 150,000 people of 15 years or over answer the questionnaire. A third of the sample is replaced each year.

The labour force survey processing chain has been modernized in order to improve the quality of the results and to reduce production lead times. In 1990, automatic coding was introduced.

6.10. Algeria The statistical information system

by E. BENTABET

Preamble

The strategic importance and dimensions of information control in today's world are the result of the activity's increasing dominance at the global, regional and national level.

The activity has vast economic and political implications and is common to all scientific, technological and organizational progress toward the future.

One of the most vital of all information systems is the statistical information system. The growth in the importance of statistics arises out of the need for a deeper understanding of the increasingly complex economic, social, political and cultural realities and a number of more practical related requirements (e. g. constant expansion of the field of study, data production, rapid data distribution, constant improvement in the methodologies and concepts underlying information production).

Position of the statistical Information System in Algeria

Development of the Algerian statistics system, like every statistics system in the world, has paralleled economic development in the country. This means that the system was never defined a priori, but is the result of a process closely related to the economic and social systems of a specific time period, which in turn are based mainly on the centralized planning and management model.

The Office National des Statistiques is the central agency of the system. A number of individual government departments (e.g. Agriculture, Industry) have attempted, with mixed success, to administer the collection and processing of data on specific industries.

This means that the system as it stands is semi-decentralized.

L'Office National des Statistiques

The Algerian Office National des Statistiques was established in 1982. It is a government administrative institution, and a financially independent corporation.

The ONS is supervised by the Delegate for Planning.

The ONS is mandated to do all statistical work, more specifically the work prerequisite to national planning, and all surveys and censuses designed to improve understanding of the economic and social situation.

ONS Operations Plan

The work done by the various branches of the ONS may be broken down by major area, as follows.

1 - Demographic and Social Surveys and Studies

- A general census of population and dwellings every ten years (1987 census results are currently being analyzed).
- Preparation of an annual demographic report
- Collecting, processing, collating and analyzing marital status data
- Population projections
- A survey of household consumption every ten years (most recent survey, 1988)
- An annual non-comprehensive survey of employment
- A semi-annual labour force survey
- A survey of wages (first conducted in 1980).

2 - Economic and Financial Survey and Studies

- An annual survey of financial institutions (in-depth survey every 5 years)
 - An annual survey of transportation and trade
 - An annual survey of the BTP
 - A quarterly survey of essential industries
 - An opinion poll of all companies with more than twenty employees
- The following economic indicators are prepared.

- Industrial Production Index (quarterly)
- Agricultural Production Index (quarterly)
- Consumer Price Index (monthly)
- Analysis and summary of foreign trade statistics and preparation of related indicators
- Processing and summary of financial and budget statistics

3 - National Accounts Projects

The reference year for National Accounts is 1979.

- Establishing household accounts
- Establishing provisional and final accounts
- Establishing the TES (every five years).

4 - Regional statistics and cartography

A survey of communal statistics was conducted in 1541 communes. The survey is managed as a database and is designed to monitor implementation of the Plan.

In the area of cartography, two types of maps are prepared.

- maps for census and survey purposes
- theme maps

5 - Collection, publication and dissemination of statistical information

The ONS collects statistics produced by the other administrative bodies, publishes them in document form and distributes them.

6 - Coordination of statistics

Order No. 71-134, dated 13 May 1971, governs statistics organization, coordination and requirements.

The ONS coordinates the Algerian statistics system according to its provisions.

Economic Reform and its Implications for the Statistics Information System

The changes in the economy's management systems and economic organization have led to a partial restructuring of the Algerian statistical information system.

To the current strictly macro-economic model, in which only a few parameters are developed, micro and macro-economic information systems are planned for the future.

Greater decentralization of the services responsible for producing statistical information should also be considered.

In a more general vein, designing an integrated system for statistical information, with the aim of creating an effective basis for structural analysis, should be a major aspect of statistical development in Algeria.

The following measures are prerequisite to the attainment of these objectives.

- consolidation of the regulatory, human and material foundation
- obligation for all economic bodies to comply
- strict implementation

If statistical information is to become more credible, users and producers of the information must work together, perhaps in a body entitled "Advisory Committee on Statistics". The matter is currently being studied.

6.11. Philippines

1991 Sample Census of agriculture and fisheries

by Dr. B. ONATE

A systematic random sampling of an ordered universe of villages (barangays) in each town (municipality) will be applied. The barangays are arranged in descending order by total farm area and every other barangay is drawn from the set. All households in the sample barangays are enumerated. Unusual units (barangays) in some frames are handled using special techniques.

Inter-Agency Technical Committees in cooperation with User Groups have finalized the various instruments of the 1991 Sample Census of Agriculture and Fisheries (SCAF) which will be implemented in October 1991. The National Statistics Office (NSO), the major operating statistical unit, is the Executing Office, while the National Statistical Coordination Board (NSCB) is the coordinating and standard setting office for this 1991 SCAF. (For further information, write to Dr. Burton T. Onate, IASS Philippine Representative, P. O. Box 163, College, Laguna, Philippines).

VII - STATISTICAL ABSTRACTS

The opinion policy nexus in Germany

by Joel E. Brooks, assistant professor of political science at Illinois State University.

Public Opinion Quarterly (1990), 54, 508-529

This article analyzes the previously unresearched relationship between mass public opinion policy in contemporary West Germany. By studying approximately 150 cases over the last decade, the nature of German democracy is revealed in relation to the overall consistency between majority preferences and government action. The opinion-policy nexus is explored in regard to the impact of issue saliency, landslide majorities, different categories of issues (eg., redistributive, foreign policy), and the partisan composition of the government (i.e., Social Democratic vs. Christian Democratic). In addition, there is a cross-national comparison of results for West Germany with the author's previous research on opinion and policy in the United States, Britain, and France. The findings indicate that (like other nations studies) public opinion and public policy in Germany are inconsistent in a majority of instances and that (unlike Britain or France) the partisan composition of the government does not matter vis-à-vis the degree of policy opinion congruence.

Context effects for census measures of race and Hispanic origin

By Elizabeth Martin, Chief, Center for Survey Methods Research, Bureau of the Census, Theresa J. Demalo, Social Science Statistician and Pamela C. Campaneli, Survey Statistician, Center for Survey Methods Research, Bureau of the Census.

Public opinion quarterly (1990), 54-551-566.

This paper reports on the results of a spit-ballot experiment conducted in 1987 to test alternative versions of the decennial census long form. Two forms were randomly assigned and self-administered in group sessions involving a total of 515 respondents. The order of race and Hispanic origin items was experimentally manipulated. The standard long form asks race, then Hispanic origin. The experimental form reversed the order of the items in order to reduce perceived redundancy, and to create a more restricted frame of reference for the race item. The objectives of the context manipulation were (1) to reduce item nonresponse for the Hispanic origin item, and (2) to reduce reporting of "Other race" by Hispanics in the item. Objective (1) was met. Objective (2) was met for Hispanics born in a U.S. state, but not for immigrants. The results are interpreted as restate, but not for immigrants. The results are interpreted as reflecting a process of acculturation that affects how Hispanic respondents apply U.S. racial categories "white" and "black" in the census.

Can changes in context reduce vote overreporting in surveys ?

By Stanley Presser, Professor of Sociology and director of the Survey Research Center at the University of Maryland.

Public Opinion Quarterly (1990), 54-586-593.

This paper reports the results of two spit sample experiments designed to examine whether question context can reduce vote overreporting in surveys. The first experiment tests the effects of preceding the turnout item with a question about the location of the polling place. If respondents who overreport do not know where their polling place is, they should be less apt to report incorrectly about turnout after being asked the location of the poll. The second experiment tests the effects of preceding the vote item with a question about lifetime electoral behavior. If inaccuracy is due to respondent's wanting to present themselves in a favorable light, the opportunity to report past or usual good citizenship should reduce the pressure to claim participation in the last election.

The impact of television viewing on mental aptitude and achievement : a longitudinal study

By Steven L. Gortmaker, Senior Lecturer and Acting Chairman of the Department of Behavioral Sciences at Harvard University School of Public Health, Charles A. Salter, Health Services Research Psychologist at Natick (MA) Research, Development & Engineering Center, Deborah K. Walker, Lecturer in the Department of Behavioral Sciences at Harvard University School of Public Health, William H. Dietz, JR., England Medical Center.

Public Opinion Quarterly (1990), 54, 594-604.

Previous studies of the effects of television viewing on mental abilities have shown mixed results, but most suffered from one or more of the following shortcomings : a small or otherwise unrepresentative sample, a cross-sectional rather than longitudinal approach, and a failure to consider intervening variables between television viewing and cognitive skills. This study was designed to overcome these deficiencies by using nationally representative data from the National Health Examination Cycle 2 and Cycle 3 Surveys. These surveys included 1,745 children who were studied both when 6 to 11 years old (between July, 1963, and December, 1965) and about four years later when 12 to 17 years old (between March, 1966, and March, 1970). Simple analysis at just one time-point reveals substantial relationships between the amount of television viewing and depressed IQ and Wide Range Achievement Test (Reading and Arithmetic) scores of adolescents. When longitudinal controls are added, however these relationships become statistically insignificant and substantively unimportant. Although these data are 20 years old, they indicate no significant causal relationship between the amount of television viewed and the mental aptitude and achievement test scores of adolescents, thus supporting and extending Gaddy's (1986) recent longitudinal study of a national sample of youth.

Can we improve upon preliminary estimates of payroll employment growth ?

By David Neumark, Department of Economics, University of Pennsylvania, PA, 19104 and William L. Wascher, Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, DC, 20551.

Journal of Business & Economic Statistics, April 1991, Vol 9, N° 2.

We explore the feasibility of improving upon the preliminary estimates of payroll employment growth from the U.S. Bureau of Labor Statistics by predicting subsequent revisions to these estimates, using the preliminary estimates themselves and other information available concurrently. Results of statistical tests suggest that the preliminary estimates can be improved upon ; that is, they are not "efficient forecasts" of the employment growth following annual benchmarks is particularly large ; the unanticipated component of the revision based on the annual benchmarks is reduced by more than 22 %.

Estimation and seasonal adjustment of population means using data from repeated surveys

By Danny Pfeffermann, Department of Statistics, Hebrew University, Jerusalem, Israel, 91905.

Journal of Business & Economic Statistics, April 1991, vol. 9, n° 2.

I consider estimation and seasonal adjustment of population means based on rotating panel surveys carried out at regular time intervals. The analysis used a dynamic structural model that assumes a decomposition of the mean into a trend-level component and a seasonal component. The model accounts for the correlations between individual panel estimators and for possible rotation group effects. It can be applied to general rotation patterns using either the individual panel estimates or the aggregate sample estimates, depending on data availability. Empirical results illustrating the important features of the procedure are presented.

Some new estimators for small area means with application to the assessment of farmland values

By Danny Pfeffermann, Department of Statistics, Hebrew University, Jerusalem, Israel, 91905, and Charles H. Barnard, Economic Research Service, U.S. Department of Agriculture, Washington, DC. 20005/4788.

Journal of Business & Economic Statistics, January 1991, vol. 9, n° 1.

Regression models that account for main state effects and nested county effects are considered for the assessment of farmland values. Empirical predictors obtained by replacing the unknown variances in the formulas of the optimal predictors by maximum likelihood estimates are presented. The computations are carried out by simple iterations between two SAS procedures. Estimators for the prediction variances are derived, and a modification to secure the robustness of the predictors is proposed. The procedure is applied to data on nonirrigated cropland in Corn Belt states and is shown to yield predictors with considerable lower prediction mean squared errors than the survey estimators and other regression-type estimators.

When zero defectives appear in the sample : Upper bounds on confidence coefficients of upper bounds

By Tommy Wright, Research Staff Member, Mathematical Sciences Section, Oak Ridge National Laboratory, Oak Ridge, TN, 37831-8083.

When zero defectives are observed in a sample from a finite universe, investigators and decision makers are often tempted to declare that there are zero defectives in the finite universe with high confidence. By focusing on the more general question of upper bounds for confidence coefficients of upper confidence bounds, as a special case we are able to show that our confidence that there are zero defectives in the universe when zero defectives appear in the sample is bounded by the sampling fraction.

Simultaneous testing of regression coefficients with complex survey data :
use of Bonferroni t statistics

By Edward L. Kom, Mathematical Statistician, Biometric Research Branch, National Cancer Institute, Executive Plaza North, Room 739, Bethesda, MD 20892 and Barry I. Greubard, Mathematical Statistician, Biometry Branch, National Cancer Institute Bethesda, MD 20892.

The Wald statistic is frequently used to test hypotheses about beta coefficients from multiple linear regression analyses of complex survey data. This statistic requires a consistent estimate of the variance-covariance matrix of regression coefficients. In a survey such as the Second National Health and Nutrition Examination Survey, the sample design limits the researcher to at most 32 degrees of freedom for estimating this matrix. This article considers the properties of the Wald statistic when the number of beta coefficients approaches the degrees of freedom, in this situation. Bonferroni-adjusted t statistics are an attractive alternative.

VIII - QUESTION/ANSWER

Conducted by Leslie Kish. Please send questions to him (ISR - The University of Michigan, Ann Arbor, MI 48106, USA, TELEX 4320815, Fax 313-747-4575) or to IASS, Paris. Please indicate whether or not you want your name given with the question. This has become an open forum, and we shall gladly print (after refereeing) additions, modifications, discussions of past published answers. Contributors to answers will be acknowledged if they agree.

25.1 Question The "true mean" is usually defined in sampling as a fixed, though unknown, value $\bar{Y} = \sum Y_i / N$ ($i=1,2,\dots,N$), to distinguish it from the variable sample mean $\bar{y} = \sum Y_i / n$ ($i=1,2,\dots,n$). This fits in with your definition: "The true value would be obtained from all population elements, if the observations would not be subject to error." But is it not more realistic to adopt the view of "superpopulations," which allow for measurement errors, and for other kinds of variations?

Answer You point correctly to an area of inconsistency, which we should recognize and perhaps justify. The unknown fixed values are fictions that serve usefully as models, abstractions, concepts, approximations. "Both population value and true value refer to numerical expressions derived from the entire population. The difference between them arises from errors of observation. The true value would be obtained from all population elements, if the observations were not subject to error. The population value...would be obtained if the entire population - rather than just a sample - were designated for observation under the actual survey conditions. Even that value is subject to fluctuation, since repeated measurements would obtain different values. But this variability of the population value is ordinarily small compared to the sampling variance..." (Kish 1965, Section 1.3).

Both values are useful concepts, I propose, without attempting to argue if the two are necessary or sufficient. Population values are defined by the same essential survey conditions used for the sample values. This facilitates statistical inference with standard sampling errors from sample values (statistics) to population values. It also permits using practical, feasible operations without waiting for ideal, perfect conditions.

Nevertheless we also need "true values" so that we may compare the systematic biases of two or more operations. Also possibly, though this is more difficult, to evaluate the (approximate) magnitude of the bias of each. Without some concept about true values, it seems difficult to conceptualize biases.

Definitions for true values pose considerable difficulties, and they must be unique, relevant, and operational. Those difficulties differ greatly between variables, and let me briefly mention three types.

a. Heights and weights and births and deaths may exemplify relatively easy classes, though none come entirely trouble free. For example, after sleeping we average two pounds lighter but a half inch longer than in the evening.

b. Defining true values for income or unemployment or marriage rates is difficult.

c. Defining true values for attitudes and opinions may be impossible.

These difficulties with true values are not "merely theoretical" and philosophical, because they can pose important practical problems, e.g., for the measures of unemployment and income. Furthermore, to the difficulties of defining true values for individuals, the true mean for a population involves problems of defining membership in, association with a defined population.

True values may be defined to exclude the a) measurement errors that affect population values. However, both values are subject to three other kinds of variations or errors. b) Definitions of the variables are subject to differences, subject to considerations of relevance and feasibility. Problems with definitions for unemployment and income spring readily to mind, but even height and weight have some problems, and opinions and attitudes have more. c) Structural variations affect all individuals, and the time and conditions for defining and measuring variables may have important effects on aggregate values also. d) But the aggregate values are also subject to compositional changes and mobility of the population.

At this point we should be reminded of the effects of errors of nonresponse on definitions of response. From the sample (adjusted for item nonresponse) the direct inference is to a survey population, which differs by nonresponse (refusals, not-at-homes) from the frame population, from which the sample was selected. But the frame differs from the intended target population because of noncoverages and other imperfections of the frame. It is only on top of three population levels that we arrive at the four sources of variations in true values [Kish 1987, 2.1].

The distinction between population value and true value separates two steps of inference in survey sampling. The first step involves statistical inference from the sample to the frame population based on the mechanical randomization of probability sampling and it is defined, objective and public. The second step to the true value(s) may be multiform, multipurpose, mathematical, or subjective, and private.

Finally we should also consider alternative definitions of the reference period for true values in light of expected variations over time. In addition to secular changes, which may be monotonic

or may not, there may exist shorter fluctuations, seasonal, diurnal and others. Three main kinds of solutions are most common. First, a unique period may be defined for the true value (though perhaps difficult to operationalize for the population value); e.g. height and weight after waking, tire pressures when cold, the U.S. Census on April 1 of decennial years, etc. Second, averages or totals may be sampled over time, e.g. annual incomes, annual mortality and morbidity rates. Third, variation over the entire period may be observed, e.g. weekly changes in epidemics, or unemployment rates.

Variations in the spatial dimension pose similar problems of definition of true value. Furthermore, other dimensions of variations also may need considerations for identification of true values in many situations.

25.2 Question The Politz-Simmons procedure avoids the problems and costs of call-backs by obtaining only first calls, then the biases for not-at-homes are corrected with inverse weighting. Is this procedure used frequently and successfully? How does it compare with other procedures for dealing with nonresponses?

Answer The procedure is used sometimes but not frequently, I believe, and I don't recommend it for several reasons [Kish, 1965, 13.6C]. We need to consider several criteria to compare it to alternative procedures. It is a common mistake to base procedures on a single criterion, like "unbiasedness," disregarding others.

Consider five alternative procedures.

- a. The Politz-Simmons procedure "ascertains" on how many other of k "similar periods" the respondent was available; if the answer is r , the interview is weighted by $(k+1)/(r+1)$. The weights range from 1 to $k+1$; e.g. with k and r from 7 to 1 the weights run from 1 to 8. [Politz and Simmons 1949; Simmons 1954].
- b. First Call procedures would refer to first calls only without weighting, but this is not used without some modifications.
- c. Quota Samples are basically first calls, but modified to obtain a sample proportional to some basic (census) data on gender, age, and perhaps some other basic available classes, which may include working/nonworking.
- d. "Dome" samples are quota samples obtained from probability selections of dwellings ("dome" from the Latin).
- e. Probability selections use probability selections of dwellings and of respondents within them, and these involve call-backs on not-at-homes; perhaps up to 3, 4, or 6 calls; and perhaps beyond the point where refusals and unascertained items are greater than not-at-homes.

The criteria (factors) for deciding on the Politz-Simmons procedures are as follows:

- 1) The cost of callbacks is not as great as people assume naively. Up to six calls (five callbacks) average to only 2.04 because later not-at-homes become a decreasing fraction. Furthermore the mean cost of response is only 1.31 times the cost of first calls only per successful interviews, because the greater number of first calls for the latter also costs. Those numbers will be slightly higher for random adults in the USA today, because there will be less than 42 percent at home [Kish 1965, Tables 13.5.1 and 13.5.2].
- 2) The cost of questions to obtain a value r from k "similar" periods is not negligible. It may take a page and 10 minutes on the schedule. This doubles the cost of a 10 minute poll and adds 20 percent to the cost of a 50 minute interview.

3. The costs of weighting all analyses is still not negligible, and together with 2 may realistically cancel the savings of 1.
4. Variance increases due to weighting may be greater than the savings, and these depend on the range 1 to $k+1$, and on the relative frequencies (W_h) of people in the $(k+1)$ classes. Realistically the factor may be 1.5 to 2. But this may be reduced by censoring or winsorizing to smaller $k+1$ [Kish 1989, 1990]. In addition to the desired "not-at-homeness" there is also haphazard randomness of various kinds in the replies, and these increase the variance without reducing the bias. A respondent may be away (vacation) on one week or regularly (working) at one hour, without being "usually" not-at-home. I have not seen this investigated, but it fits a different suggestion. [Deming 1953].
5. The bias remaining after weighting, when the bias in the answer r is correlated with the survey variables, can bias the results. This may explain the biases found in P-S weighted results, as shown by Simmons himself [1954].
6. When callbacks are not feasible, due to time pressure (e.g. "disaster surveys" taken the "day after"; "last day" election polls), the Politz-Simmons procedure should be balanced against "dome" samples or quota samples as alternatives, because probability samples with call-backs may not be feasible.

References

- Deming WE [1953], On a probability mechanism...and the bias of nonresponse, JASA, 48, 743-772.
- Kish, L [1965] Survey Sampling, New York: Wiley
- Kish, L [1987] Statistical Design for Research, New York: Wiley
- Kish, L [1989, 1990], Survey Statistician, Question/Answer, 22.2, 24.1.
- Politz A and Simmons WR [1949], An attempt to get the "not-at-homes" into the sample without call-backs, JASA, 44, 9-31.
- Simmons WR [1954], A plan to account for "not-at-homes" by combining weighting with call-backs, Journal of Marketing 19, 42-53.

IX - PUBLICATIONS

Survey Sampling - Author : Leslie KISH

Editor : Wiley

643pp. Price : US dollar 54.95

Telephone Survey Methodology

Authors : R.M. GROVES, P. BIEMER, L. LYBERG, J. MASSEY, W.L. NICHOLLS II, J. WAKSBERG

Editor : Wiley

608 pp. Price : US dollar 54.95

Survey Errors and Survey Costs

Author : R.M. GROVES

Editor : Wiley

624 pp. Price : US dollar 68.95

Survey Design and Analysis

Author : F.R. JOLLIFFE

Editor : Wiley

178 pp. Price : US dollar 89.95

Panel Surveys

Authors : D. KASPRZYK, G.J. DUNCAN, G. KALTON, M.P. SINGH

Editor : Wiley

592 pp. Price : US dollar 68.95

Connaître les conditions de vie des ménages dans les pays en développement

Authors : J.L. DUBOIS, D. BLAIZEAU

Editor : La Documentation Française

Vol. 1 : F.F.72

Vol. 2 : F.F.84

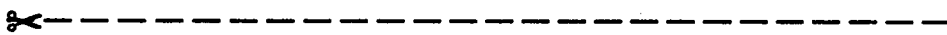
Vol. 3 : F.F.72

Invitation to authors

Authors are invited to submit to the JOURNAL OF OFFICIAL STATISTICS. The journal emphasizes applications and encourages manuscripts on methodology and policy issues. Manuscripts should be written in English and contain an abstract of about 150 words and a few key words. All manuscripts are refereed. Submissions should be sent to the Chief Editor in six copies.

Mailing address:

Lars Lyberg, Chief Editor
Journal of Official Statistics
Statistics Sweden
S-115 81 Stockholm
Sweden



Order Form

Send to:
JOURNAL OF OFFICIAL STATISTICS
SCB-Distribution
S-701 89 Örebro
SWEDEN

Send *no* money now, we will bill you.
Please enter a subscription for Vol. 7, 1991 at

- USD 50/SEK 300 (Regular price)
- USD 32/SEK 200 (Reduced price for members of the ASA, the IASS or the IAOS)

Name:

Address:

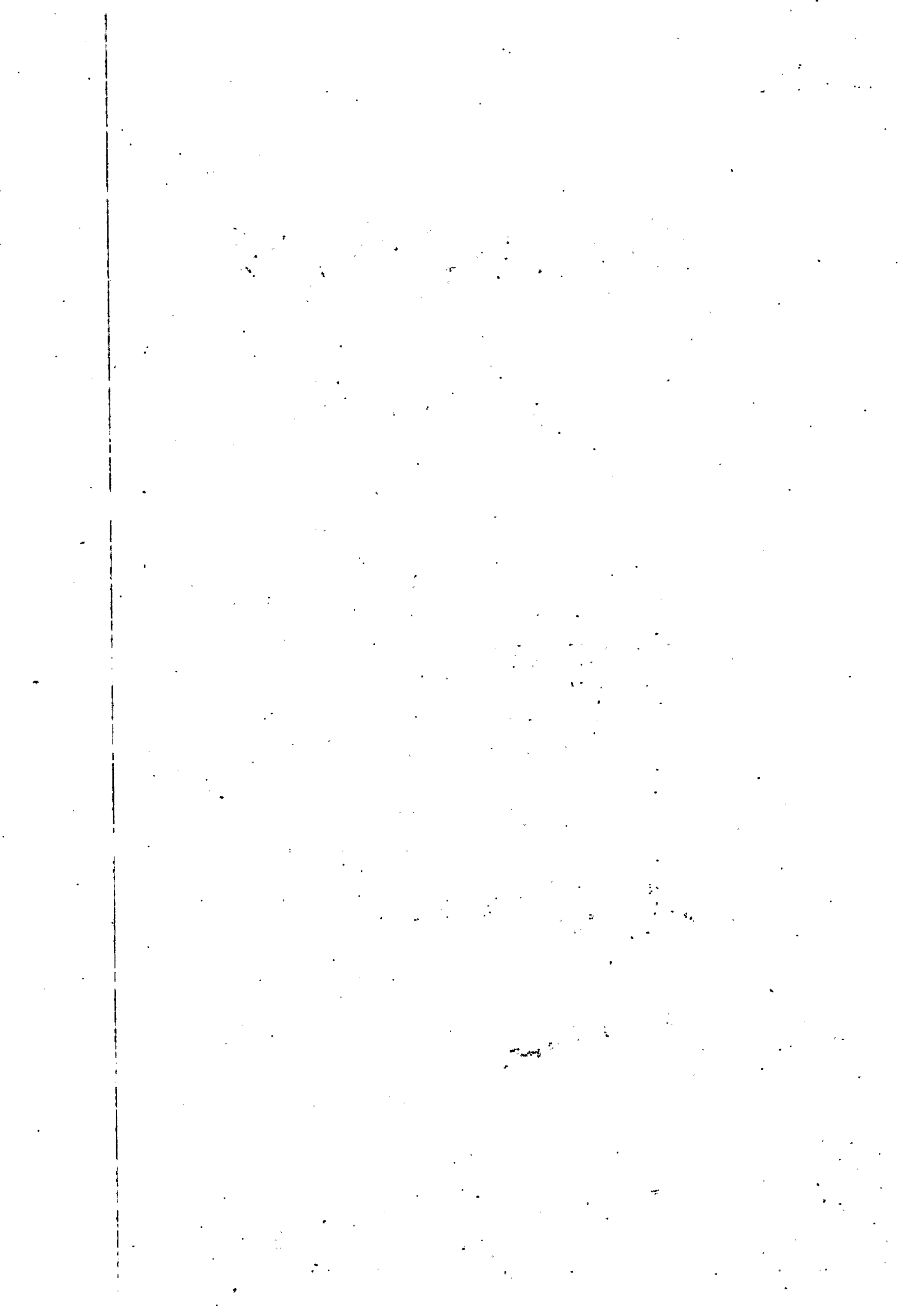
.....

.....

.....

Signature: Date:





JOS

1991

Journal of Official Statistics

An International Review
Published by Statistics Sweden

JOS specializes in issues pertinent to survey sampling with emphasis on the methodology and applications used by statistical agencies. Recent articles have discussed

- variance estimation in complex surveys
- census undercount
- methodological problems in consumer price indexes
- seasonal-trend decomposition procedures
- optimal call scheduling strategies in telephone surveys
- automated data editing and imputation

JOS is an international review published quarterly by Statistics Sweden. All submissions are refereed.

Each year one of the four issues is devoted to a special topic. Previous special issues have dealt with questionnaire design, population censuses, nonsampling errors, telephone survey methodology and environmental statistics.