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1. Paris ISI Session

1.1 IASS Meetings

- . Wednesday 30 August : IASS Program Committee
- . Thursday 31 August : IASS council/1
- . Friday 1 September : IASS Local Representatives
- . Monday 4 September : IASS General Assembly
- . Tuesday 5 September : IASS council/2

1.2 IASS short course

As indicated in last february ISI Newsletter the IASS will sponsor a short course in "Variance Estimation for Complex Survey", immediatly before the session of ISI Paris, on 28 August 1989, from 9.30 a.m to 6 p.m.

Contents of the Course :

1. Methods of estimating variances for statistics such as means, ratios, regression coefficients and entries into tables will be described.

2. The personal computer program PCCARP will be demonstrated and instructions on the use of the program given.

The purpose of the course is to provide a learning opportunity for IASS members and other professionals, with special attention to statisticians from developing countries. The short course will be given by Professor Wayne Fuller, Iowa State University and Doctor Kirk Wolter, U.S. Bureau of the Census. The language of the short course will be English: No translation facilities will be available.

The registration fee is US\$ 100 (or the equivalent in French currency with the opportunity to get a copy of the computer program PCCARP and a copy of the book "Introduction to variance estimation" at a reduced additional cost of US\$ 300. Survey statisticians from developing countries will be exempted on demand from the payment of fee and will be supplied with a free copy of the software.

The course is intended for a maximum number of 50 participants. The space will be assigned on the first come, first served basis. A substantial number of places will be reserved with a priority to survey statisticians from developing countries.

It is confirmed that this short course will indeed take place. Places are still available.

Applications and requests for additional information should be sent to :

Bernard GRAIS
Deputy Executive Director
IASS
C/O INSEE
18, Bd Adolphe Pinard
75675 Paris Cedex 14 - France.

1.3 "Questions and Answers" meeting

We recall this meeting, scheduled to be held during the Paris session. We did not receive any response but it is not too late for those who wish to show any interest in this meeting.

1.4 ISI short course

We are pleased to announce that the two short courses described below will be offered by the ISI Ad Hoc Committee on the Conference Programme at the 47 th Session of the ISI in Paris.

If you wish to preregister for either course and take advantage of the reduced fee, fill and return the form at the end of this article with payment US\$ 100 to the Permanent Office of the ISI. (428 Prinses Beatrixlaan, PO Box 950-2270 AZ Voorburg-Netherlands). Preregistration discount will be offered until 15 July. The regular course fee of US\$ 125 for Members and US\$ 150 for non-Members will be charged thereafter. The Permanent Office will accept short course registrations at the Paris Session on Monday, 28 August, at regular fees.

SHORT COURSE IN TREATMENT OF MISSING DATA AND NONRESPONSE IN SURVEYS

Presented by : Professor Donald B. Rubin, Department of Statistics, Harvard University and Professor Roderick JA Little, Department of Biomathematics, University of California, Los Angeles.

Schedule : Tuesday, 29 August, 8:30 to 12:30 and 2:00 to 4:00

Content : General strategies for handling missing data will be discussed with emphasis on model-based methods for the analysis of missing data and the creation and analysis of multiply-imputed data bases. Current application of multiple imputation to real data will be included.

SHORT COURSE IN APPLIED NONPARAMETRIC STATISTICAL METHODS

Presented by Peter Sprent, Emeritus Professor of Statistics, University of Dundee.

Schedule : Thursday 7 September, 8:30 to 12:30 and 2:30 to 4:30

Content : Both well-established and recently-developed ideas are covered, such as Loglinear models, m-estimators, the jackknife and

the bootstrap. The course emphasizes relationships between basic concepts and practical work examples.

PREREGISTRATION FORM

I wish to preregister* for the following short course(s) :

Rubin and Little, Treatment of Missing Data and Nonresponse in Surveys

Sprent, Applied Nonparametric Statistical Methods

Name :

Mailing Address :
.....
.....

* Preregistration form and payment of US\$100 must be received by the ISI's Permanent Office by 15 July. Preregistration can be cancelled by writing to the ISI before 31 July for a 75 % refund or before 21 August for a 50 % refund. If the ISI decides to cancel either course a 100\$ refund will be made to preregistrants.

2. 1991 Cairo ISI session

The program committee for the 1991 session consists of the following individuals :

- G. Forbrig (GDR)
- B. Grais (France)
- R.J. Little (USA)
- A.J. Scott (New Zealand)
- I.P. David (Philippines)
- X.U. Gang (China)
- A.M. Hallouda (Egypt)
- L.E. Lyberg (Sweden)
- K.M. Wolter (USA), Chair.

It is not too late to submit suggestions about topics, speakers, discussants, and organizers. Suggestions for invited paper meetings should reach the Chair no later than August 1, 1989.

Suggestions for contributed paper meetings are also welcome, and may be submitted somewhat latter than the deadline for invited paper meetings.

3. Sampling Program for Survey Statisticians (University of Michigan)

The Survey Research Center at The University of Michigan plans to offer its Sampling Program for Survey Statisticians in the summer of 1990. The Sampling Program will be held during the Center's 43rd Annual Summer Institute in Survey Research Techniques in Ann Arbor, Michigan, U.S.A, July 2 - August 24, 1990.

The Sampling Program is an intensive eight-week course for statisticians who want to specialize in sampling methods. It will consist of two successive four-week lecture courses in survey sampling methods and one concurrent eight-week workshop in sampling techniques. The program focuses on survey sampling practice, and it will give an added emphasis to sample designs for developing countries. A special feature of the program will be training in the use of microcomputers for sample design, selection, and analysis.

The 1990 Sampling Program will be co-directed by Graham Kalton and James Lepkowski. For further information or an application form, write to either of them at the Survey Research Center, University of Michigan, P.O Box 1248, Ann Arbor, Michigan 48106, USA (FAX telephone number : (313) 747-4575. BITNET address : USERGBUU @ UMICHB).

4. Local Representatives

- USA : Dr Daniel KASPRZYK has replaced Dr Martin FRANKEL, who has resigned. His address is as follows : US Department of Commerce, Bureau of the Census, Washington, DC 20233.

- Mali : Mr Bakary SACKO has been appointed as Local Representative for Mali. His address is as follows : ESPR c/o ODEM SEVARE MOPTI MALI.

5. Country reports

5.1 United States (Daniel Kasprzyk)

The National Center for Health Statistics (NCHS) established the National Laboratory for Collaborative Research in Cognition and Survey Measurement in 1986. The laboratory is devoted to the study of ways in which the theories and methods of cognitive psychology can be applied to survey methodology. One aspect of the laboratory is a questionnaire design laboratory that uses cognitively-based interviewing techniques to test questionnaires that are developed at the NCHS, focusing on problems that occur because of failures of recall and the decision processes of laboratory subjects. The laboratory has contributed to the questionnaire development and testing process at the NCHS, most notably with the US Health Interview Survey. For information about cognitive research at the NCHS write to Dr Gordon B. Willis, Office of Research and Methodology, National Center for Health Statistics, 3700 East-West Highway, Hyattsville, Maryland 20782.

In 1988, the US Bureau of Labor Statistics (BLS) created a Survey Design Research Center staff consisting of a mixture of psychologists and mathematical statisticians. During the next several years, the staff's research will concentrate on methods to improve BLS questionnaires by reducing respondent and interviewer errors. A number of studies have begun recently. For example, an investigation into problems of terminology in the US Current Population Survey has begun, looking at differences between the respondent's understanding and BLS definitions of key terms such as "job", "business", "on layoff", and "looking for work".

The BLS has also initiated research with the Institute for Social Research at the University of Michigan and Westat, Inc. Methods for improving the quality of industry and occupation data and the classification of part-time/full-time employment in the Current Population Survey are under investigation. The development and testing of a clothing diary for the BLS Consumer Expenditure Survey as an alternative to the current 3-month recall interview is also under investigation. The goal of the latter study is to reduce the recall bias and under-reporting of expenditures found using current procedures. For information about these and other projects designed to help reduce nonsampling error in BLS surveys write to Dr. Cathryn S. Dippo, Office of Mathematical Statistics, Bureau of Labor Statistics, 441 G Street, NW, Washington, DC 20212.

As part of the Panel Study of Income Dynamics, the Survey Research Center of the University of Michigan is conducting a study which obtains and analyzes survey and record data at two points in time for a sample of workers in a large primary metal manufacturing firm. With these data from two sources it is possible to estimate the serial correlation of measurement errors in labor economic surveys. For information about the study write to Dr. Willard Rodgers, Room 3067, Institute for Social Research, University of Michigan 48106.

The Research Triangle Institute is conducting a study for the National Center for Health Statistics to determine the feasibility of implementing a national household survey to measure the prevalence of HIV infection in the US population. For information about the methodological problems in implementing The National Household Seroprevalence Survey write to Dr Ralph Folsom, PO Box 12194, Research Triangle Park, North Carolina 27709.

The Committee on National Statistics of the National Academy of Sciences and the Social Science Research Council are convening a panel of experts to study confidentiality and data access. The purpose of the study is to advise US government agencies on how access to data for statistical use may be improved without undue risk of adverse effects on public cooperation with censuses and surveys. The panel will review current procedures that various US agencies use in deciding whether to release data and the manner of release ; in particular, the panel will assess the extent and affectiveness of various arrangements for restricted access to data. The panel also intends to review the technical and administrative practices of other countries to protect confidentiality. For more information write to Dr Miron L. Straf, Committee on National Statistics, National Academy of Sciences, 2101 Constitution Ave, Washington, DC 20418.

The US Bureau of the Census held its Fifth Annual Research Conference (ARC V) March 19-22, 1989. the conference featured 37 research papers covering a mix of topics-coverage measurement, cognitive research to improve survey and census questionnaire design, analysis of longitudinal data, edit and imputation methods, and disclosure avoidance techniques. A proceedings volume containing the research papers and the formal discussions will be available later this year. For information write to Ms Maxime Anderson-Brown ARC Conference Coordinator, Office of the Director, Bureau of the Census, Washington, DC 20233.

The Demographic and Health Surveys Program

The Demographic and Health Surveys (DHS) program, initiated in 1984, is a nine-year project of data collection, analysis and information dissemination designed to update and expand the vast body of demographic and family planning data collected in the World Fertility Survey (WFS) and Contraceptive Prevalence Surveys (CPS).

In addition, the DHS program puts major emphasis on data regarding maternal and child health and the nutritional status of children.

DHS is being implemented by the Institute for Resource Development under funding by the US Agency for International Development, with the assistance of The Population Council during the first five years.

During the first stage of DHS (DHS-I), 35 surveys will be executed and analyzed. and 25 Further Analysis projects put into place in the period 1984-1989. The second stage (DHS-II) was recently awarded to IRD for the period 1988-1993, with a one-year overlap between DHS-I and DHS-II. During the second stage, a further 25 surveys will be executed and analyzed and a comprehensive training and analysis program put into place.

By the end of March 1989, fieldwork had been completed for 31 surveys, Preliminary Reports published for 27 and Final Reports for 20.

The data generated under the DHS program are generally available at cost to responsible researchers and research institutions for further analysis. IRD maintains extensive archives and documentation for the distribution of data sets.

A main, innovative feature of the DHS program was the development of a data processing package for entry, editing and tabulation of the survey data (ISSA, the Integrated System for Survey Analysis) on microcomputers. This software package has been used for all but the earliest surveys and has proven instrumental in getting the survey work done in record time.

The DHS program distributes a biannual Newsletter about progress and survey results. If you would be interested in receiving this Newsletter free of charge, or have any queries about or requests for data from the program, please write to :

Demographic and Health Surveys
Institute for Resource Development
8850 Stanford Boulevard, Suite 4000
Columbia, MD 21045 USA.

5.2 Canada

Major changes are taking place in the program of business surveys carried out by Statistics Canada. The main objective of these changes is to standardize and integrate the collection and processing methodologies and the outputs of the business surveys program. This goal is to be achieved through the mandatory use of a common central frame and of generic survey methods and systems. The cost of future survey designs, redesigns and upgrades should be also reduced as specific methodologies and custom-made systems are replaced by generalized ones. More specifically, the benefits will include standardization of concepts, definitions, classification schemes and survey procedures ; development of generalized systems for survey functions such as industry coding, sample size determination and allocation, sample selection, edit, imputation, estimation, and confidentiality analysis ; more comprehensive frame coverage, in particular more precise delineation of large economic units and their reporting arrangements and more reliable industrial classification ; reduction in response burden and improved respondent relations through explicit recognition of respondent accounting practices and through increased use of administrative data ; reduced mailout and data collection costs ; and increased scope for studying business demographics. The new central frame was put in place early in 1989 and the first surveys to make use of the new frame and approaches will be producing results later in the year. For more information on this program contact Michael Colledge, Business Survey Methods Division, Statistics Canada, Ottawa, Ontario, Canada, K1A OT6.

A special issue of the Canadian Journal of Statistics, the journal of the Statistical Society of Canada, will be of interest to members of IASS. This issue (Volume 16, Supplement, August 1988) is devoted to papers written by social scientists and statisticians at Statistics Canada and contains 14 papers demonstrating the interplay between statistical theory, data, and analysis in a variety of applications. Copies of this issue are available for \$25.00 from David Bray, Managing Editor, Statistics Canada, Ottawa, Ontario, Canada, K1A OT6.

An international symposium on The Impact of High Technology on Survey Taking was held in Ottawa in October 1988. The program included sessions related to data collection, processing, analysis and dissemination. Close to 400 persons from about 20 countries attended. Copies of the proceedings can be obtained for \$20.00 from John Kovar, Business Survey Methods Division, Statistics Canada, Ottawa, Ontario, Canada, K1A OT6. The next symposium in this series will focus on The Analysis of Data in Time and will be held in Ottawa from October 23-25, 1989. For more information contact Patricia Whitridge, Business Survey Methods Division, Statistics Canada, Ottawa, Ontario, Canada, K1A OT6.

5.3 Australia

Longitudinal Survey of Transition from School

The Department of Employment, Education and Training are planning to start a nation wide longitudinal survey of young people to collect information on school retention and on the transition from school to the workforce or further education. An initial sample of 7000 people aged between 15 and 19 is to be selected in 1989. A multi stage area sample will be used to select a sample of 43,000 private dwellings at which screening interviews will be conducted to locate people in the required age group. Full interviews will be conducted with people 16 to 19 and people aged 15 will be asked to supply basic demographic and contact information so that they can be interviewed in 1990. The survey is to be repeated in 1990 and 1991 with follow up interviews being conducted with all people included in the previous years' survey. In each year following 1989 a sample of 15 year olds will also be selected to provide the sample of 16 year olds for the following year. A loss of about 15 % of the sample is expected each year although various measures will be undertaken to keep track of the sample. These measures include the recording of 3 addresses of alternative contacts, leaving change of address cards, and sending out Christmas cards and newsletters requesting to be informed of any future moves. This survey will supplement the Australian National Longitudinal Survey which has been conducted since 1985, by providing a larger sample and more detailed information on this age group and their experiences.

Surveys of Training

The Australian Bureau of Statistics is to conduct two major surveys concerned with training. The first is a household survey of job training and career paths to be conducted in the period March to July 1989. The survey will collect details of the amount of formal and informal training received in the previous 12 months and qualifications used in a persons main job. The survey will also obtain information relevant to the examination of the career paths of Nurses and Trade Persons. To reduce the costs of the survey and the respondent load on the whole community the sample is to be obtained by identifying people in the scope of the survey who are in the Monthly Labour Force Survey (MLFS) for the last time in March, April, June and July 1989. Obtaining the sample in this way means that screening can be done in conjunction with the MLFS. The household survey will complement two employer based surveys of training expenditure ; the first survey of 2000 employers will cover the September 1989 quarter and will be followed by a survey of 6000 employers for the September 1990 quarter.

Time Use Pilot Survey

A major time use pilot survey was conducted by the Australian Bureau of Statistics over the period 23 May to 4 June 1987. A probability sample of 1000 private dwellings was selected in Sydney and all persons aged 15 years and over in the selected dwellings were asked to complete a 48 hours time diary divided into 5 minutes intervals. In order to achieve a proper representation of the days of the week for which activities were reported, each household was assigned a specific 48 hours period for which the members of the household were to keep their time diaries. The results of the survey and further details of the methodology used are given in the information paper "Time Use Pilot Survey" (ABS Catalogue Number 4111.1).

Computer Applications in Survey Operations and Analysis

The Statistical Society of Australia will be holding STATCOMP 89, the 4th biennial conference focusing on statistical computing, in Adelaide on 6-7 July 1989. Themes of the conference are computer applications in survey operations and analysis, expert systems, methodology for simulation studies.

National Mathematical Sciences Congress

The NMSC was held in Canberra in May 1988. Professor Fred Smith of the University of Southampton presented an invited paper on "Total Survey Error" and Gary Morgan of The Ray Morgan Research Centre gave an invited paper on "Opinion Polling in Australia". Two sessions of contributed papers on sample surveys were given. Papers were presented on rotation group effect, model based domain estimation, variability of statistical series, detection and treatment of outliers, confidentialising microdata, residue testing in beef, small area estimation, CATI, composite estimation for retail sales, purposive sampling, and estimation under superpopulation models.

Smoothing Time Series

The Australian Bureau of Statistics has recently started publishing estimates of trend or smoothed seasonally adjusted series. An information paper "A Guide to Smoothing Time Series - Estimates for Trend" is available describing the procedures used and their properties (ABS catalogue number 1317.0).

For further information on any of the above please contact David Steel, PO Box 10, Belconnen, ACT 2615, Australia.

5.4. Great Britain (Denise Lievesley)

SCPR Survey Methods Centre

The Survey Methods Centre at Social and Community Planning Research in London carries out a programme of research on methodological aspects of social surveys and provides consultancy and teaching on survey methods. It has recently undergone major staff changes. Colm O'Muircheartaigh, on two year's leave from the London School of Economics, is the new director of the Centre. He has been joined by Jean Martin who is seconded for two years from the Office of Population Censuses and Surveys.

A new programme of work is currently being developed. The main projects are : an Investigation of software available for computer assisted surveys, particularly for computer assisted questionnaire design and data collection further analysis of a panel sample interviewed in four successive years on the British Social Attitudes Survey, to investigate attitude volatility ; and an experiment to study the effect of an advance letter to addresses sampled for the 1989 British Social Attitudes Survey. In addition work is planned on memory effects and response errors in surveys.

Those interested in obtaining more information about the Survey Methods Centre's activities should contact Susan Rapley, Survey Methods Centre, SCPR, 35 Northampton Square, London EC1V OAX, UK.

Research Centre on Micro-social Change

A new research centre has been established at the University of Essex to research micro-social change in Britain. It will bring together an interdisciplinary team of economists, demographers, political scientists, sociologists and survey researchers. The research programme will identify, model, explain and forecast social change in Britain at the individual and household level for the period up to the year 2000. A panel survey will be established with regular interviews of individuals over a two year period. It is envisaged that an important component of the research programme will be comparative analyses using similar panels in western Europe and the USA.

For further information on the Research Centre contact Dr. David Rose, CARE, University of Essex, Wivenhoe Park, Colchester CO4 3SQ, Essex, UK

Regional Research Laboratories

The Regional Research Laboratory initiative is a major programme launched by the Economic and Social Research Council to establish regional centres of excellence in the fields of data handling, database management, geographical analysis, software development, training and advice. The concept was successfully developed and tested during a pilot phase. The main phase will run for three years from October 1988. To date eight laboratories have been established throughout the United Kingdom. At the end of the period funded by the ESRC these regional laboratories will be expected to continue on a self financing basis. Their work will address many of the priorities and needs identified in the report of the Chorley Committee of Enquiry into "Handling Geographic Information", HMSO, London, 1987.

For more details on the work of these centres contact Professor Ian Masses, Dept. Town and Regional Planning, University of Sheffield, 6 Claremont Place, Sheffield, England.

The British Census of Population in 1991

A government decision has been made to proceed with plans for a census of population in Great Britain in 1991. This will be the nineteenth in a series carried out every ten years since 1801 with the exception of 1941. Consultations are taking place with Census users on the topics to be included, the geographical organization of the data, and the methods of dissemination of the Census results.

The 1991 Census is taking a similar format to the previous one in 1981. For example, field staff will call on all households to deliver and collect forms (although steps are being taken to improve coverage and particularly in the inner cities), answers to all questions would be obtained from all households and persons (although some questions about persons will probably be coded and processed for a sample only), as many answers as possible will be pre-coded, and results will be disseminated by a mixture of reports and machine readable media.

Inquiries about the census plans should be addressed to Census Division, OPCS, St. Catherines House, 10 Kingsway, London WC2B 6JP.

1988 British Crime Survey

A third British Crime Survey took place in 1988 - previous sweeps were conducted in 1982 and 1984. The main aims of the survey were to check and amplify official statistics, to assess the consequences of crime for people who become victims, the degree to which the public's behavior is constrained by the fear of crime and examine ways of preventing crime. To maintain comparability with the previous surveys the same procedures were used to classify and count crime. The survey is based on a national representative sample of adults in Great Britain with over-representation of Scotland and of ethnic minorities in England and Wales. Fieldwork was conducted jointly by Social and Community Planning Research and National Opinion Polls.

Further information may be obtained from Home Office Research and Planning Unit, Queen Anne's Gate, London SW1H 9AT, UK.

Survey of Sexual Attitudes and Lifestyles

A large programme of developmental work for a survey of sexual attitudes and lifestyles has been partly funded by the Economic and Social Research Council and the Health Education Authority in Great Britain. This culminated in a feasibility study of nearly 1000 interviews with a nationwide probability sample of people aged 16-59.

The objectives of the study are : to provide baseline information about sexual behaviors of the general population against which changes and data relating to special groups may be measured ; to understand variations in sexual behavior in relation to demographic variables to increase understanding of sexually transmitted diseases ; and to provide data for the modelling of the potential spread of HIV in the British population and to assist health care planning.

The research is the result of collaboration between medical researchers at Middlesex Hospital Medical School, Imperial College and St Mary's Hospital Medical School and survey researchers at SCPR. The research team are confident that a main study on the scale originally envisaged is both feasible and justified, and plans are underway to interview 20,000 people throughout Great Britain in mid-1989.

Recent Publications

British Social Attitudes : The 5th Report edited by R. Jowell, S. Witherspoon and L. Brook, Gower, Aldershot (1988).

SCPR's British Social Attitudes : the 5th Report is now available. The book follows its predecessors in presenting the most recent data from the British Social Attitudes series in an easily accessible format. All the questionnaires used in the most recent survey are reproduced in the back of the book with marginal distributions. The book contains interpretative essays on ten different topics including health provision, environmental issues, and political values.

The 1987 data, on which much of the new Report is based, are now available from the ESRC Data Archive, Essex University, Colchester CO4 3SQ, Essex, UK. Five years of Social Attitudes data are now available and interested analysts can combine data from more than one year using the SPSS-X files provided.

OPCS surveys of disability in Great Britain :

Report 1 : The prevalence of disability among adults by Jean Martin, Howard Meltzer and David Elliot, HMSO, London (1988).

Report 2 : The financial circumstances of disabled adults living in private households by Jean Martin and Amanda White, HMSO, London (1988).

In 1984 the Department of Health and Social Security commissioned the Office of Population Censuses and Surveys to carry out a programme of survey research on people with disabilities. The aim of the research was to provide up-to-date information about the number of disabled people in Great Britain with different levels of severity and their circumstances for the purposes of planning benefits and services. Four separate surveys were carried out between 1985 and 1988, covering adults in private households, children in private households, adults in communal establishments and children in communal establishments.

The results of the surveys are being presented in a series of six reports of which two have been published so far and the others will appear during the course of 1989. The first report describes the main concepts and methods common to all the surveys and presents the prevalence estimates from the two surveys of disabled adults. The second report examines the financial circumstances of disabled adults living in private households. Later reports present the prevalence estimates for children and describe other aspects of the circumstances of disabled people in Great Britain.

CSO Statistical News, N° 83, November, 1988, HMSO, London.

A recent issue of the Central Statistical Office's Statistical News contains an article on the international co-ordination of official statistics written by George Clarke, formerly adviser to the Director General of EUROSTAT. The article is an overview of international statistics organization as seen from a Community point of view, and provides a reliable description of the rather complex United Nations system.

Journal of the Royal Statistical Society Series A, Vol 151 Part I, 1988.

Series A of the Journal of the Royal Statistical Society has a new subtitle - Statistics in Society. It aims to publish papers of general statistical interest which normally appeal primarily because of their substantive rather than technical statistical content. Economic,

social and governmental issues are of particular interest and the intention is to make Series A a vehicle for serious applications of statistical thinking to social problems. IASS members may find the first issue in 1988 of particular interest. It reports upon the proceedings of a meeting on acquired immune deficiency syndrome (AIDS) convened in November 1987. The meeting report is complemented by contributed papers and statements on AIDS from the Royal Statistical Society and the World Health Organization.

5.5 Japan (Chikio Hayashi)

CULTURAL LINK ANALYSIS FOR COMPARATIVE RESEARCH

- A new Approach to the Exploration of Structure in Ways of Thinking Applied to Cross National Analysis of General Social Attitudes-

This large project has started in Japan since 1986 and will end in 1991. This research covers the development of new statistical methodology in social surveys and an analysis of complex data in large scale comparative social research. Particularly, it is noted that various problems of translation of the same questions are discussed on the behavior metric idea.

The characteristic features are found in the design and analysis of data and this research may give a typical model in this kind of study.

The objective of this research is the theoretical development and application of a new statistical social survey method for use in comparative studies of attitudinal structures of persons belonging to different cultural spheres. Such a method should contribute to the expansion of basic knowledge, thereby providing a means of coping with and working towards the resolution of pressing cultural and social problems caused by the increasing complexity of contemporary society and the diversification of values. Development and application of this new method should also, in the long run, assist in the promotion of international cooperation and mutual understanding in the face of serious strains and friction encountered in the international arena today.

This is because the method opens to comprehension the dynamic nature of similarities and differences in multifaceted thought structures among different subgroups. The knowledge gained is not merely speculative and critical, but rather, has a scientific and material character which renders it applicable in real life situations.

The specific plan to achieve this objective is three-fold :

A : The Establishment of the Cultural Link Method for Comparative Research

The link method provides a means for examining the similarities and differences in cognitive structures and ways of thinking in different cultures.

The major feature of this method is its relative freedom from cultural and linguistic biases, problems inherent in previous work on the assessment of human cognitive structures. Such an unbiased assessment method should ultimately provide a means for linking the contributions to commonalities and differences from three areas :

a. A spatial link inherent in the selection of the subject culture or society. The connections seen in such selection may be considered along the dimensions of social environment, culture and ethnic characteristics.

b. An item structure link inherent in the commonalities and differences in item response patterns within and across different cultures.

c. A temporal link inherent in longitudinal analysis.

Thus, the cultural link method for comparative surveys comprises information about three different areas : the sample itself, the item content, and stability and change over time. By examining the separate contributions of these three sources to the overall picture, a much clearer analysis is made possible.

B. Verification of the Practical Applicability and Validity of the Cultural Link Method in Comparative International Survey Research

To date, the link survey method has been applied in comparative studies of attitudes in the US and Japan through a series of surveys conducted in Honolulu, Hawaii. Through this work the validity of the method has been confirmed. However, generalization of this method is seriously limited. The universality of findings cannot be claimed based on the application of the method to only two cultures or societies. For this reason, it is necessary to extend the application of the method to include other nations which have the data of continuing surveys' and which seem to have undergone significant social and cultural changes, such as the US and Western Europe, specifically West Germany, France and Great Britain. Unless the application can be so extended, the general validity of the method in the broader international arena cannot be ascertained.

C. The Construction of a Statistical System for Use With Multiplex Parallel Data-set Analysis (MPDA)

Through the construction of such a statistical analysis system for handling multiplex parallel data sets, the analysis of data resulting from the application of the cultural link survey method using the idea of successive approximations is easily achieved.

NB : A part of this research has been published as a book, "Data Analysis" by Hayashi, C and Suzuki, T, Iwanami Shoten, 1986 (in Japanese), which will be translated into English and be published).

For further information, please contact Chikio Hayashi, The University of the Air, 11, Wakaba - 2, Chiba, 260- Japan.

5.6 Denmark (Finn Madsen)

Nowadays most of the Danish administration's register systems are computerbased.

According to the law on Public Authorities' Registers information from these registers may be passed on to researchers for scientific studies under conditions specified by the relevant authorities. In Denmark these administrative registers are used as basis for both censuses and sample surveys.

The fact that The Danish National Institute of Social Research is established by law within the central administration and accordingly (in contradistinction from eg universities) is working according to the rules established by the law on Public Authorities' Registers makes it rather easy for the Institute to get access to most of the central authorities' registers, primarily the Central National Register or (closer to Danish) : Central Person Register : CPR.

Since the early seventies the CPR has been used as main frame for most of the surveys, conducted by the Institute. It is possible from this frame to select samples, stratified according to country, municipality, sex, age, marital status, place of birth and nationality, but as all studies, conducted by the Institute are multipurpose and analytical, the researchers prefer simple random samples, at least for nationwide studies.

On the other hand : Within the limitations of the CPR it is possible to define domains of study and consequently select simple random samples, most often with the same sample size, from each domain.

Examples from 1988 :

Elderly people's dwelling-conditions. One domain : People aged 70 years and over, living in private dwelling (owned or hired). For the sampling (SRS) to this study the CPR was combined with the Central Building and Dwelling Register.

Young immigrants' integration in the Danish community. Three domains : People aged 18-25 years with at least ten years residence in Denmark, of Turkish, Pakistani or Yugoslav origin. SRS with about 300 persons from each domain.

Phases in refugees' integration in the Danish community. Three domains : People aged 20-59 years with Polish, Vietnamese or Iranian citizenship arrived in Denmark in the period 1980-85. SRS with about 250 persons from each domain.

It is doubtful whether such samples could be established without the CPR. Anyway the costs would be prohibitive.

5.7. Spain

Basque Country (Anjeles Iztueta Azkue)

International Statistics Seminar

Since 1983 EUSTAT (The Basque Statistical Institute) and the University of the Basque Country have organized an annual International Seminar directed at post graduates and professional statisticians from varying backgrounds. Some 300 professional people attend this meeting every year. There is a collection of technical monographs publishing the contents of these seminars. Up to now, the following invited papers have been published :

- . Linear Statistic Inference (CR Rao)
- . Sampling and Applications (E Cansado)
- . Statistical Teaching (V Barnett)
- . Data Analysis (P Clapier)
- . Design and Planning of Experiments (DJ Finney)
- . Aspects of Sampling Theory and Applications (F Azorin)
- . An Intensive Basic Course in Sampling (JL Sanchez Crespo)
- . Analysis of Chronological Series. Statistical Indicators (J. Fourastié)
- . Master Sample : Conception and Implications (G Roy)
- . Methodology and Treatment of the Non-Response (R Platek)
- . Statistical Sampling Operations (L Kish)
- . Analysis of Time Series : Some Box-Jenkins Prediction Techniques (I Gallastegui)
- . Telephone Surveys (V Salvy)
- . Quality Indicators in Surveys (A Marton) (Awaiting publication)
- . Generalized Linear Models in Epidemiology (JC Duffy)
- . Compensating for Missing Survey Data (G Kalton) (At Sept. 1989 meeting)
- . New Technologies in Computer Assisted Survey Processing (Keller and Bethlehem) (At Spet 1989 meeting)

International Meeting of Official Statistics in the Basque Country

One of the satellite meetings of the 47th ISI Session in Paris will be celebrated this year in Bilbao, on the 7th, 8th, 9th and 10th of September, 1989. This satellite meeting is sponsored by the IAOS and will consist of two simultaneous sessions of invited papers and free communications.

1st session : Statistical Methodology of Economic Accounts at a Regional Level (Chairman : JP Le Gleau)

2nd session : Automation Process in Official Statistical Production : Experiences and Methodology (Chairman : E. Outrata)

At the same time as the free communications there will also be a Workshop on "Experiences and Problems in Measuring Social Welfare" (Chairman : R Ramprakash)

Employment Survey on Basque Population

This survey deals with the collection of information on employment and unemployment of the population of the Basque Autonomous Community. It is a continuous survey on 3.770 families/year with a 1/6 rotation every quarter. Apart from being a novelty, this survey analyses typologies of primary units using multivariate techniques and a great deal of original information. This analysis optimizes much of the field work and greatly increases the precision of the survey results. In the first stage of sampling it is supported simultaneously by all other population surveys.

Updating of Directory and Economic Survey in Commercial Sector

This concerns a biannual survey of 2.500 interviews. The operation approaches simultaneously the quantitative updating of the directory using sampling techniques and the biannual economic survey. It gives a new approach to updating directories in atomized economical sectors.

Quality of Living Survey

This survey is still in the design and experiment phase. It will be an omnibus survey on the quality of living.

5.8 Mali (Bakary Sacko)

The "Direction National des Statistiques et de l'Information", under the aegis of the African National Household Survey Capability Programme (NHSCP), undertook in June 1988 the first national survey on household budgets and consumption.

The survey, which will continue until May 1989, covers the entire country (urban and rural areas).

Stratification consisted of crossing the country's agroclimatic zones and administrative regions.

After determining the sample size for urban and rural areas, the sample was allocated proportionately to the number of concessions among the various strata, from which the statistical units were drawn in two stages :

- in the first stage, the Enumeration Sections (defined during the 1987 general population census) were drawn with probability proportional to the number of concessions in 1987.

In the enumeration sections drawn, a list of budgetary units was drawn up, and then ;

- in the second phase, a constant number of budgetary units was drawn.

This is a single pass survey : in each stratum the sample was allocated equitably among the four seasons of the year, thereby ensuring a representative sample for each season.

March 1989 thus marks the final phase of the survey, which will be completed by the end of May 1989.

5.9 Italy (Leonarda Roveri) : the Italian Multipurpose Household Survey

At the end of 1987 the Central Statistical Institute of Italy started a new household survey programme in the field of socio-demographic statistics. About 4,000 households, in 207 municipalities, are interviewed every month ; the information framework of the Multipurpose Household Survey (IMF) is quite complex : it covers the field of some already existing surveys (eliminating them) and extends the data collection to many social aspects of increasing interest. A strong integration between different socio-demographic data is one of the most important consequences.

The survey has a total periodicity of six cycles and each cycle lasts six months. The sample is designed in order to produce some estimates at national level every two months and estimates at regional level for each cycle ; furthermore, estimates referring to a particular classification of municipalities can be produced. Each household is interviewed only once.

The questionnaires used in every cycle contain both common core questions and cycles specific questions. The distribution of the different items is synthetically exposed in the annexed scheme, the information referring to items from A to G are collected every month. The choice of the common core questions of IMF is based upon two criteria : a) the information are interesting not only by themselves but because they can be considered as background information, necessary to interpret other kinds of information ; b) there is some interest in the seasonal trend (in the case of item E) and it is necessary to use a short recall period because of memory problems. The estimates which regard the common core questions can be produced with a very flexible detail with respect both to time reference and cross-tabulations.

Among the several aspects involved by the complexity of the IMF design, it may be useful to stress at least two points :

a) one of the most important characteristics of IMF is the collection of data useful both for individual and household level of analysis ; in many cases this choice imposes the use of specific questions and, furthermore, it leads to the construction of weights that are identical for the households and their own members ;

b) because of the multiplicity of themes of IMF, which involves very different kinds of questions, a specific problem is the acceptance of proxy answers during the interview (answers given by the present members about the absent members) ; a flexible strategy is adopted and in some cases very simple self-compiled questionnaires are used.

In general, in the IMF design there is an increasing attention for data quality problems, that is conducting to the study of some special projects. They will be particularly useful after the first three years of survey, that is to say after a period which can be considered experimental from several points of view.

SCHEME OF THE MULTIPURPOSE HOUSEHOLD SURVEY

ITEMS	CYCLE NUMBER					
	1	2	3	4	5	6
A- Household structure.....	x	x	x	x	x	x
B- Educational attainment.....	x	x	x	x	x	x
C- Professional/unprofessional condition.....	x	x	x	x	x	x
D- Kind of income source.....	x	x	x	x	x	x
E- Health condition (present acute diseases).....	x	x	x	x	x	x
F- Disability condition with need for help.....	x	x	x	x	x	x
G- Housing condition.....	x	x	x	x	x	x
H- Crime victimization.....	x					
I- Home accidents.....	x					
J- Usual readings of newspapers, magazines, books...	x					
K- Listening to radio, watching TV (habits).....	x					
L- Sporting (habits).....		x				
M- Time use.....		x	x			
N- Household and housing history.....		x				
O- Trips of less than five days.....			x	x		
" " five days and more.....			x			
P- School participation, child life.....			x			
Q- Elderly condition.....				x		
R- Help relations among households.....				x	x	
S- Use of social and health services.....				x	x	
T- Disability.....				x		
U- Food consumptions.....					x	x
V- Chronic diseases, selected health-related habits.					x	
W- Professional history.....						x
X- Work division inside households.....						x
Y- Household economy.....						x

5.10 - Nigeria (Dr. Christiana E.E. OKOJIE)

WOMEN'S STATUS AND FERTILITY IN BENDEL STATE OF NIGERIA SAMPLING DESIGN AND SURVEY EXECUTION

A. INTRODUCTION :

The empirical work of this study was based on data collected in a field survey designed and conducted from February to October, 1985. The survey was titled "Women's Status and Fertility in Bendel State - Field Survey". The main objective of the study was to explore the relationships between women's public and private status and their fertility behaviour in selected communities in Bendel State of Nigeria. The objectives of the field survey were therefore to collect information on - the levels and patterns of fertility, knowledge and practice of contraception, costs/benefits of children, indices of women's domestic status as measured by household division of labour and decision-making, and economic contribution to the household.

B. COVERAGE :

One major ethnic group from each of the five zones into which Bendel State was divided for election purposes was selected for inclusion in the study. They were - the Bini (Bendel Central), the Ishan (Bendel North), the Western Ibo (Bendel East), the Urhobo (Bendel South), and the Itsekiri (Bendel Delta). One town and two rural areas inhabited mainly by each ethnic group was selected. These communities were selected to yield a diversity of socio-economic environment which may lead to differences in female status. They included administrative centres, commercial towns, farming communities, ports, and an island. The target population was ever-married women between 15-50 years old.

C. SAMPLING DESIGN :

Bearing in mind that surveys can produce low-quality data as a result of faulty design and/or poor execution, effort was made to produce a fairly efficient and practical survey design and field control procedures which could be implemented by available staff. In this study, a two-stage sampling procedure was followed. At the first stage, area units or enumeration areas (EAs) were selected after which listing of dwelling units was carried out while at the second-stage, dwelling units to be included in the study were selected.

C.1 Selection of Primary Sampling Units (PSU's)/SSU's :

Enumeration Areas (EAs) were the PSU's. A systematic selection procedure was adopted in selecting appropriate number of EAs from each domain of reporting. Listing of dwelling units of adequate number in consideration for intended analysis was made. The first household to the right in the selected dwelling units was subsequently taken.

D. SURVEY EXECUTION :

D.1 Survey Instruments :

Various survey instruments were designed for use during the field survey. They included a household schedule, a female and a community questionnaire. Instruction manuals were also prepared for listers, interviewers and field supervisors. Other survey control instruments such as age charts, sample assignment and outcome forms, and interviewer daily record forms were also prepared.

D.2 Interviewer Recruitment and Training :

Personal interviewing was the most adequate method for eliciting information from respondents given high illiteracy rates among women in Nigeria. Interviewers recruited were expected to have had some years of secondary education or teacher training. Separate field teams were used in various communities because of dispersion of communities and diversity of languages. Only residents in or indigenes of the community were recruited as field staff. Training of field staff took place in a suitable location in each of the five zones. Training lasted over six, four-hour daily sessions in addition to trial field interviews. Both male and female interviewers were recruited.

D.3 Respondent Co-operation :

Special efforts were made to elicit respondent co-operation in this study. This was necessary because most of the communities selected were rural. Furthermore many of the questions in a fertility questionnaire are very sensitive and personal. Except in Benin-City and Warri which were the most urbanised communities and where respondents may be familiar with surveys, special visits were paid to the elders/chiefs to solicit their co-operation. During such visits, gifts of drinks and kola were exchanged and prayers said. The elders were acquainted with the objectives of the study and the target population. The elders were very co-operative in all communities. Two television interviews and a press release were part of the publicity given to the study. These helped to arouse interest in the survey.

Response to the survey was very good. The percentages of selected households successfully contacted were as follows : - Bendel Central-97.6 per cent ; Bendel East-93.7 per cent ; Bendel North-89.4 per cent ; Bendel South-93.4 per cent and Bendel Delta-95.3 per cent. The overall proportion contacted was 93.9 per cent out of 1,832 selected households. Response rates in individual communities varied between 83 per cent and 100 per cent, it was generally higher in rural than among urban communities. Refusal rates were very low, many households in Bendel North could not be identified because dwelling were not numbered at the time of the survey. A total of 2,180 female questionnaires were completed.

E. LIMITATIONS OF THE SURVEY :

Inevitably, the quality of data collected in a survey is a function of the sample design, the organizational arrangements and the operational control of the survey. To minimize non-sampling errors, it is essential to use sound design principles and to apply good field control procedures in executing the survey design. This is possible in practice where there are sufficient resources, trained personnel and adequate facilities. Where all three do not exist as is the case in developing countries, compromises have to be made between the ideal and the attainable in order to ensure a reasonably efficient design and execution (National Academic Press, 1981). Thus efforts were made in this study to adopt a practical sample design and strict field control procedures. In spite of these, the following non-sampling errors could affect the results of the study.

Errors of non-observation include errors from non-coverage and non-response (Kish, 1965). Non-coverage occurred during the listing process as some dwellings were omitted by listers. It could have occurred during sample selection where it was decided to select only one household from a dwelling unit even where it contained many households. In effect, some households were not given a chance of being included in the sample. This was done for simplicity and on the assumption that the sample will still be representative given that sampling units in an area tend to be similar to each other. In real life neighbours tend to resemble each other more than those who live apart, and this principle holds for mortality and fertility (National Academy Press, 1981).

Sources of non-response errors were the not-at-homes (after four calls), refusal to co-operate, or movers. Non-response was not a very serious problem in this survey.

Response errors can be a serious problem in a fertility survey. In many cultures, including Nigeria, age, date of occurrence of past events such as births, deaths, marriage and migration are not reported accurately either deliberately or as a result of illiteracy. This was a problem in this study though efforts were made to reconcile figures during data editing. Age at death of children was the most important response error, and this made it difficult to compute infant and child mortality rates.

F. CONCLUSION :

Coding instructions were prepared for data editing and coding. Analysis of data has now been completed and the results written up. The findings of the study compare favourably with the results of the Nigerian Fertility Survey which was conducted in 1981 under the auspices of the World Fertility Survey.

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6. Announcements

6.1 American Statistical Association Sesquicentennial 1839-1989

The American Statistical Association is celebrating its Sesquicentennial with a series of events which began in New Orleans in August 1988 and will conclude in Boston in December 1989.

The kickoff took place during the ASA Annual Meeting, August 22-25, 1988, and featured four presentations by prominent members of the statistical profession. This was followed by special programs and events sponsored by the 11 Sections of the Association and many of the 75 chapters in the United States and Canada. Several of the programs were cosponsored by other professional associations at the national and local levels.

The climax of the celebration is the Annual Meeting on August 6-10, 1989, in Washington, DC. During this meeting, 20 special invited sessions will cover all areas of statistical applications and highlight historical aspects of their development.

November 1989 is National Statistics Month. Many chapters across the country will join us in observing this with programs of particular significance. All of the celebrations will culminate in Boston with a program and banquet on December 9, 1989, which comes within a few days of the 150th anniversary date of the formation of ASA in that city.

For further information, please contact :

Fred C. LEONE
Executive Director Emeritus
American Statistical Association
1429 Duke Street
Alexandria, VA 22314-3402

6.2 Bureau of the Census : Annual Research Conference

The Bureau of the Census is planning its 1990 Annual Research Conference, to be held in March of 1990 in the Washington, DC area. The conference will consist primarily of contributed papers, most of which receive formal discussion at the conference. The conference will feature papers on topics related to a broad range of Census Bureau research interests. Papers may address methodology, empirical studies, or relevant issues. A conference proceedings volume containing all papers and discussions will be published. Presenters will be reimbursed for transportation within the USA and per diem expenses and will receive a fee for manuscript preparation (expected range : \$250-\$450).

Topic areas include : statistical methodologies for censuses and surveys ; data collection technologies ; imputation methodology ; disclosure avoidance ; international income comparisons ; economic measurement methods and issues : such as, housing affordability, household income, service industries, investments and planned expenditures, and capital ; response and nonresponse to business surveys and censuses ; economic classifications (SIC, ETC) : methodology and data needs ; reconciling foreign trade estimates between countries ; design and use of business registers ; economic studies using firm and establishment level data ; graphical methods of statistical analysis ; managing the changing survey workforce ; behavioral research on the census undercount ; evaluating the 1990 US Census ; collecting sensitive behavioral data ; geographic and cartographic database ; and modeling geographic data.

To have a paper considered for presentation, send a 500-word abstract by August 14, 1989 to :

David F. Findley
Conference Chair
Statistical Research Division
Bureau of the Census
Washington, DC 20233

6.3 First Scientific Conference of the African Statistical Association

The 1st Scientific Conference of the African Statistical Association (AFSA) will be held in Nigeria between the 29th of October and 3rd of November 1989. Contacts for more information are :

(i) The Executive Secretary
of AFSA (Mr. F.A. Ofole)
AFSA Headquarters
36/38 Broad Street
P.M.B. N° 12528
Lagos - Nigeria
Phone 601710-4

(ii) The Programme Chairman
(Mr. O.O. Ajayi)
c/o Federal Office of Statistics
P.M.B. 12528
Lagos - Nigeria
Phone 01 - 681896

7. Publications

7.1 Panel Surveys

In November, 1986, the IASS collaborated with the Section on Survey Research Methods of the American Statistical Association to hold an International Symposium on Panel Surveys in Washington, DC. Approximately three hundred researchers attended the Symposium. A volume of the invited papers from the Symposium will be published this summer by John Wiley and Sons. Panel Surveys, edited by D. Kasprzyk, G.J. Duncan, G. Kalton and M.P. Singh, contains nine sections, each treating a general issue in the design or analysis of panel surveys : panel survey design issues ; data collection ; statistical design and estimation ; data base management ;

sources of nonsampling error ; panel conditioning ; nonresponse adjustments ; estimating cross - sectional and change parameters ; and modeling considerations.

7.2 Telephone Survey Methodology

In November, 1987, IASS collaborated with the Section on Survey Research Methods of the American Statistical Association and the American Association for Public Opinion Research to sponsor an International Conference on Telephone Survey Methodology. Approximately four hundred participants attended the conference in Charlotte, North Carolina. A volume on Telephone Survey Methodology, edited by R.M. Groves, P.P. Biemer, L.E. Lyberg, J.T. Massey, W.L. Nicholls II, and J. Waksberg, was published by John Wiley and Sons in 1988. The volume describes the latest work on telephone survey methods. It contains sections on coverage of the household population by telephones, sample design alternatives, nonresponse issues, computer assisted telephone interviewing systems, telephone survey administration, and data quality issues. In addition, the text provides a comprehensive bibliography of telephone survey methodology.

8. Papers Abstracts

8.1 Model - based finite population correction for the Horvitz - Thompson estimator

Author : Phillip S. KOTT
Journal : *Biometrika*, 1988, vol 75 (4), pp 797-799

This paper discusses a model-based finite population correction term for estimating the variance (more precisely, the model and design variances) of the Horvitz-Thompson estimator of a finite population mean. The problem faced is extending the practice of finite population correction to Horvitz-Thompson estimation strategies in which the probabilities of selecting the units from the sample are not all equal. Some special cases are considered, among which the probability proportional to size sampling.

Reprint requests should be sent to Phillip S. Kott, National Agricultural Statistics Service, Washington DC 20250, USA.

8.2 Maximum Likelihood estimation of gross flows

Author : R.L. Chambers, L. Wozyban, R. Pillig
Journal : *Australian Journal of Statistics*, 1988, vol 30 (2), pp 149-162.

The authors are from the Australian Bureau of Agriculture and Resource Economics. They have developed a method of maximum likelihood estimation of gross flows from overlapping stratified sample data. The approach taken is model-based and the EM algorithm is used to solve the estimation problem. Inference is based on information from the total sample at each time period. This can be contrasted with the conventional approach to gross flows estimation which only uses information from the overlapping sub-sample.

An application to estimation of flows of Australian cropping and livestock data is discussed. The maximum likelihood estimate is generally more accurate than the estimate based on the common sample, often significantly more accurate.

There is also a discussion of extensions to more complex sampling situations.

9. 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.

N° 21.1 QUESTION : How important is it to have similar (identical ?) sampling methods (and procedures ?) for making valid comparisons between data from several distinct survey samples ? Comparisons between countries (populations), also between surveys and periods from within the same countries, are increasing in numbers.

Answer : First, we must distinguish clearly sample designs which are concerned with sample selections, on one hand, from other aspects of survey design on the other hand. Confusing these two aspects often leads to misunderstanding. The table below may help to avoid such confusions, which arise in several contexts. The table was prepared to define the boundaries for the subject of sample designs and methods. It also should help to define the responsibilities of the sampling statisticians from the duties of others involved in the surveys. It should also help to avoid confusions such as shown by questions often posed to us sampling statisticians, such as : "Why do election polls miss so often the election results ?" or "Why did results from sample surveys differ from the results of the census (of population or agriculture) ?"

Table 1.1.1 Relation of Sample Design to Survey Design
From L. Kish, Sampling Methods for Agricultural Surveys,
Rome : FAO, 1989

Sample design

Selection methods and procedures
Sampling Units : choice, designation and identification
Allocation of sample sizes to stages of sampling units
Stratification and allocation (sizes, rates) to strata

Joint design

Designation of population and elements
Cost, size and desired precision
Estimation and statistical analysis
Computation and presentation of sampling errors
Nonresponses, noncoverage, weights and imputation.

Survey design

Survey variables : choice, definition, measurements, observation
Data collection, coding, processing, computing
Substantive analyses : Methods and models
Domains of analysis : choice, definition
Response errors and biases
Presentation of data, statistics, and results
Utilization of results

It is essential for comparisons of survey results, between countries and within countries, that the contents of the compared surveys be similar as regards the definitions and measurements of variables. Ideally they should be identical, and differences in definitions, methods and operational procedures must be examined and judged. Differences in extent and contents of the populations enter into the interpretation of the comparisons.

However the selection methods and the sample designs of the surveys, whose results are compared, need not be at all similar. If they are based on good probability methods, the sampling method for each can be entirely distinct. Actually for each sample we should utilize whatever selection method is most appropriate, feasible, and efficient. As an outstanding example, this principle was adopted very early for the World Fertility Surveys conducted in 42 developing countries. Great flexibility was used in order to better utilize local resources for distinct sample designs. On the other hand, great care and efforts were expended to cover similar populations and to render measurements of variables operationally similar in order to permit valid comparisons between and within countries. Such problems arise also within countries for comparisons between surveys repeated over time and for surveys by different organizations.

It is instructive to add here that distinct sampling methods can also be and are often used for different portions of the same sample. It is often economical and proper to use different sampling methods for different strata (provinces and states) ; for different primary sampling units (urban and rural) ; and even within PSU's. This is evident in multi-frame samples ; as in the Sample Survey of Retail Stores [Hansen, Hurwitz and Madow, Sample Survey methods and Theory, New York : Wiley 1953, vol I, 12A]. Recent and important examples can be found in dual frames combining clustered area samples with element sampling of telephones [Lepkowski JM and Groves RM, "A mean squared error model for dual frame, mixed mode survey design," JASA, 81, 1986, 930-37].

Descriptive statistics are based on sample estimates in which all elements receive weights $w_j = F/P_j$, inversely proportional to their selection probabilities, P_j . However the variances and other sampling error functions also depend on j joint probabilities of selection and can become more complex.

Further discussions of this broad subject are hereby invited by the editor.

N° 21.2 Question : Research reports often make references to area sampling, but we cannot find comprehensive treatments of this widely used method, and books and courses seem to slight this subject. Please direct us to some references.

Answer : Area sampling is not basically a distinct sampling method. "Area sampling is a practical listing procedure that accommodates good frames for selecting dwellings". And many other populations that can be well located and identified on the earth's land surface. Area sampling generally uses sampling methods of unequal sized clusters, often with subsampling and multistage selection and most sampling books have references to those methods. Here are some references specifically to area sampling (and readers are requested to supply others in later Q/A's).

Kish L, Survey Sampling, Wiley 1965, Chs 9 and 10.

Kish L, Sampling Methods for Agricultural Surveys, Rome : FAO, 1989, Chapters 10 and 11.

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Wright T and Tsao HJ, "A frame on frames", in Wright T, Statistical Methods and the Improvement of Data Quality, New York : Academic Press 1983.

Murthy MN, Sampling Theory and Methods, Calcutta : Statistical Publishing Society, 1967, see index.

Hansen MH, Hurwitz WN and Madow WG, Sample Survey Methods and Theory, vol 1, New York : John Wiley 1953, Section 6.2 - 6.5 etc.

N° 21.3 Question : There seems to be confusion and inconsistency about use of the terms : sampling fraction, sampling rate, probability of selection, and sampling percentage. What is the proper terminology for these ?

Answer : Much confusion and inconsistency seem to be common about those terms, and it also reflects confusion in thinking, I fear. Let us see if we can arrive at some agreement, and I ask our readers for further discussions.

First, let selection probability P_j , represent the operational probability of selection of any element $j=1, 2, \dots, N$ from the population into the sample. It serves well unequal probabilities, but in case of equal probabilities $P_j=f$ some constant.

Selection rates should refer to equal selection probabilities, I suggest, where they denote the constant probability $P_j=f$ for all elements. However, in selection formulas, such as $(M_a/Fb) \times (b/M_a)$ $1/F=f$ for two stage selection, we may call f a selection rate, also b/M_a because this denotes equal selection probabilities within the a -th primary unit. $M_a f$ denotes equal probabilities for the selection measures M_a but the primary units receive unequal probabilities.

Sampling fractions would also be equal to the sampling rates, when the population size N is fixed. Otherwise it may represent n/N ; the proportion actually achieved by the sample, which may differ from f . Furthermore, with nonresponses (missing units), n may represent the fixed achieved, responding sample cases.

As for sampling percentage, this may be a term we don't need. But in any case, it is misleading to write either a "sampling fraction f " or a "sampling percentage $100f$," when the selection probabilities are not equal. They mislead the readers and users of the data into believing it as a selection method and a precision, contrary to the actual reality. The "fraction sampled" or "percentage sampled" often denote merely the fraction or percentage of the population included in the sample, and they alone provide no information on the probabilities of selection. Hence they are of little use for statistical inference.

INTERNATIONAL ASSOCIATION OF
SURVEY STATISTICIANS

18, Boulevard Pinard
75675 PARIS-CEDEX 14-FRANCE

MEMBERSHIP APPLICATION FORM

I wish to enroll as a member of the International Association of Survey
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