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iter from the Presid

May I begin by wishing all members of IASS a very successful and prosperous 2006. In my first few months as President I have been most impressed by the large number of individuals, across many countries, who are engaged in different ways in supporting the activities of IASS. Some are elected, many unelected, but all are volunteering their time and energy to our Association. We depend on these people, appreciate their contributions, and could use more of them. If any members would like to become more involved in the activities of the Association, please contact me or another member of the Executive Committee (see the list on page 23).

It is time already to start thinking about our next slate of elected officers and Council members to take office in 2007. I am pleased to announce that Beverley Carlson, a former IASS Vice-President, has kindly accepted to Chair the Nominations Committee for the 2007 elections. Other members of the Committee will be appointed shortly. In the meantime, any ideas suggestions for potential or candidates can be discussed with Beverley (bcarlson@un.org).

IASS sadly lost two of its long-time supporters recently. M.P.Singh was for almost 30 years Editor of Survey Methodology, a journal offered to IASS members for many vears. Edwin Goldfield had a distinguished career, first in the United States Census Bureau and then at the National Academies of Science in Washington where he was Director of the Committee on National Statistics. More details on their careers appear elsewhere in this issue. In offering condolences those who knew to them personally, we also recognize their significant contributions to our profession.

In the last issue of The Survey Statistician I mentioned the Cochran-Hansen prize and our intention to continue with this prize in 2007 despite some disappointment in the number of entries for the 2005 prize. Honouring the names of two heroes of our profession, this prize is aimed at young statisticians from developing and transition countries. The first invitation to make nominations for the 2007 prize appears in this issue. I would like to urge IASS members from all countries to consider and encourage possible candidates. Those of you in universities might consider current or recent students, or young faculty members, who meet the criteria and encourage them to apply. Those of you working in statistical agencies or in industry could do the same with respect to new recruits or young professionals who work with you. The Cochran-Hansen prize was introduced 25th in 2000 to celebrate our Anniversary; it needs your support to maintain its profile and prestige. I am pleased to add that Council member Sarah Nusser has agreed to chair the Cochran-Hansen Prize Committee for 2007.

The list of topics for meetings sponsored by IASS in the 2007 ISI sessions in Lisbon was provided in the previous issue of the *Survey Statistician.* You will find that list updated with the names of the organisers of the individual meetings on page 23 of this issue, as provided by our Program Chair, David Steel.

continues to IASS sponsor and support selected conferences between biennial ISI sessions. Amona upcoming meetings are two that continue two series of meetings on important topics in our field. Q2006 (Cardiff, April 2006) continues a series of European conferences on quality in official statistics that began in Stockholm in 2000 and continued in Mainz in 2004. ICES III (Montreal, June 2007) will be the third in a series of conferences addressing Establishment Surveys that began in Buffalo in 1993 and continued in the same city in 2000. Details of these and the other conferences that IASS is supporting are included below.

Please do not hesitate to contact me if you have any suggestions or ideas about IASS and its activities.

Best wishes Gordon Brackstone President Gordon.brackstone@sympatico.ca

Report from the IASS Scientific Secretary

The year 2005 has been an eventful one with highlights such as the ISI-meeting in Sydney with IASS short courses, and IASS sponsored conferences in New Zealand and Canada. In Europe we have seen a number of initiatives, both within and outside the IASS, to strengthen survey methodology including the launching of the European Association of Survey Research. I am convinced that 2006 will show continued progress. The IASS already has a number of activities planned. The preparations for the IASS short courses in Lisbon have started. I have contacted potential lecturers and the local organizing committee in Lisbon to help find a suitable venue for the short courses and I hope to be able to present the entire course package in the next issue of The Survey Statistician.

IASS is sponsoring a number of conferences. Below you can read Risto Lehtonen's report from the SAE2005 conference. The next conference sponsored by IASS is the European Conference on Quality in Survey Statistics (Q2006) that will take place in Cardiff (Wales) during 24-26 April, 2006. The conference is jointly organised by the UK Office for National Statistics (ONS) and Eurostat. The call for abstracts received a very positive response with over 220 abstract submissions, covering a wide range of survey quality topics. In November 2005 the Programme Committee met and decided the programme. The committee conference selected approximately 140 papers to be presented at the conference and authors will be notified by the end of December 2005. In addition to the two days of paper presentations, there will be five training courses offered on Monday, 24 April : (1) Quality Management in Statistical Agencies, (2) Small Area Estimation, (3) Sampling and Estimation in Business Surveys, (4) Introduction to Survey Quality, and (5) Practical Tools for Nonresponse Bias Studies. There will also be a Q2006 satellite meeting Data Quality for International on Organizations on 27-28 April 2006. You can find the Q2006 program and other information about the event on the web (http://www.statistics.gov.uk/events/g2006/)

Other future meetings of interest to IASS members include:

The International Conference on Methodology of Longitudinal Surveys (MOLS 2006), Essex, UK, July 12-14, 2006. Website: http://www.iser.essex.ac.uk/ulsc/mols2006/

The International Conference on Establishment Surveys (ICES III), Montreal, Canada, June 18-21, 2007. Website: <u>http://www.amstat.org/meetings/ices/2007</u>

Please do not hesitate to contact me if you have suggestions or questions regarding any of the IASS activities.

Lilli Japec Scientific Secretary lilli.japec@scb.se

Report from the SAE2005 Conference -Challenges in Statistics Production for Domains and Small Areas

The SAE2005 Conference was organized in late August 2005 at the beautiful Mattilanniemi campus of the University of Jyväskylä, Finland. The conference featured main results of, and issues raised, by the EURAREA project. There were 100 participants coming from 24 different countries all over the world. Different universities, National Statistical Agencies and other governmental bodies and institutions and business firms were represented. Both people who investigate and develop methods and users were attending thus offering an inspiring atmosphere to exchange experiences and discuss new ideas. During the two and a half days conference, close to 50 invited and contributed papers were presented featuring the state-of-art of small area and domain estimation methodology and practice and, also importantly, manifesting the increasing demand in the society for regional and domain statistics.

Keynote lectures were given by Chris Elbers on poverty mapping, Patrick Heady on the EURAREA project, Mike Hidiroglou on small area estimation in business surveys, Danny Pfeffermann on the application of small area estimation for unemployment statistics and on small area estimation under informative sampling, Jon Rao on recent and new developments in small area estimation, and Carl-Erik Särndal on estimation for domains using calibration techniques and on domain estimation under nonresponse. In the ten thematic sessions the following broad topics were discussed: temporal and spatial models and GIS applications, the use of register data for small area statistics, sampling design and weighting issues. Bayesian techniques, spatial econometrics, the estimation of accuracy of small area estimates, and the evaluation of performance of small area estimators. Several sessions were devoted to practical application of small area and domain estimation in different countries.

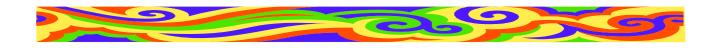
The conference also served as the final conference of the EURAREA project – Enhancing small area estimation techniques to meet European needs. The project was conducted in 2001–2004 by a consortium of six national statistical agencies and five universities from different European countries and was funded by the European Union (see details at

www.statistics.gov.uk/methods guality/eurarea/) The use of data from previous time periods (sometimes called borrowing strength in time) and data from other, neighbouring areas (featuring an attempt to borrow strength in a spatial dimension) are just a few examples of the topics of the project that were highlighted and extended in the presentations. Other EURAREA related topics were the inclusion of sampling weights in an estimation procedure and the estimation of cross-classifications in the context of small area estimation. Abstracts of the SAE2005 Conference papers can be accessed at www.stat.jyu.fi/sae2005. Α number of papers will be published in a special issue of Statistics in Transition Journal.

As a part of the conference program a short course on tools for small area estimation with hands-on PC training was organized by the Finnish team of the EURAREA project, with presentations given by Kari Djerf, Kari Nissinen and Ari Veijanen from Finland, Kaja Sõstra from Estonia and Marie Cruddas from UK. Over 50 persons attended the short course. And to feature the Finnish way of living, a sauna session was arranged, this time at the Ladun Maja cottage located at a remote lakeshore.

The conference was organized by the University of Jyväskylä, Statistics Finland and the EURAREA Consortium. International Association of Survey Statisticians (IASS) was one of the sponsors. It is expected that a further SAE conference will be organized in 2007, probably in Spain.

Risto Lehtonen





Australia Paul Sutcliffe

In August 2005, the Statistician released a statement of intention for the Census Data Enhancement Project (CDE). The primary aim of this project is to bring together a 5% sample of the 2006 Census with records from the 2011 and subsequent censuses thus forming a Statistical Longitudinal Census Data set (SLCD). This will have to be done without the use of names and addresses as they will not be retained beyond the census processing period. A secondary aim will be to bring together other specified data sets with the SLCD; these other data sets will be held within the ABS and are birth and death register data, long-term immigration data and national disease registers. No identifiable data will leave the ABS.

The Australian Bureau of Statistics is researching methods for performing data linking and investigating existing software that implement some of these methods. During the next two years we will devise a method for linking a sample of people from one census with the next census, and develop suitable measures for quantifying the quality of the linkage. We will also see whether similar methods and quality measures can be applied to linking some of the other specified data sets with the 5% census sample. Our plan is to run data linking quality studies using census data during the census processing period.

Glenys Bishop, the director responsible for this data linking methodological work, was part of the committee which organised a recent Statistics Society of Australia symposium on data linkage in Canberra. She also chaired the symposium which was attended by representatives from the ABS, several other government departments. Universities and private industry. Speakers described some of the things that can be done with combined data sets, mainly in areas of health policy research. Two speakers described statistical and computer science methodologies for linking data and match while others determining rates addressed issues of confidentiality, privacy and gaining community acceptance for data linking projects. The final speaker gave some cautionary notes about selection biases and information loss induced when linking data sets.

For more information about the data linking research work please contact Glenys Bishop at <u>glenys.bishop@abs.gov.au</u>

Canada John Kovar

Statistics Canada has implemented the last phase of a calibration strategy developed for a series of annual household surveys of income and expenditure. In the past, each survey developed its own calibration strategy which was exclusively based on demographic benchmarks. In order to ease comparison between surveys and to improve the quality of survey estimates, it was proposed to develop a new calibration strategy that harmonises concepts and possible while methods as much as respecting each survey's specific requirements.

A key element of the new strategy is the inclusion of income benchmarks in addition to demographic ones. The income calibration seeks to control the number of persons having wages and salaries by class of wages and salaries. The classes are constructed using predetermined percentiles of the wage and salary distribution provided by administrative sources. The percentiles used are the same for all surveys, but the number of classes can vary from one survey to another.

The new strategy has now been successfully implemented in several surveys. In addition to improving consistency amongst various sources, the quality of survey estimates has improved significantly. While some surveys have observed a reduction in their sampling variances, others have noticed a reduction in biases. An interesting spin-off of the project is the implementation of a thorough monitoring process for control totals. It has led to the use of fewer demographic controls but of better quality.

For further information on this project, please contact Michel Latouche at <u>Michel.Latouche@statcan.ca</u> or Johanne Tremblay at <u>Johanne.Tremblay@statcan.ca</u>.

Results from the second wave of the Longitudinal Survey of Immigrants to Canada (LSIC) were released during the fall of 2005. The main topic was concentrated on employment situation the of recent immigrants, looking at two years after they have landed in Canada. This release followed the publication of a series of analytical thematic papers based on Wave 1, covering each of the following topics: both premigration and post-migration characteristics: health; housing and mobility; education and training taken since arrival; problems and difficulties new comers experience. As well, the Wave 2 longitudinal micro-data file was made available to researchers and analysts in the Statistics Canada's Research Data Centres.

The LSIC is designed to study the process by which new immigrants adapt to or integrate into Canadian society. This includes the timing of stages in the settlement process and factors which help or hinder integration. In addition, the results of this survey provide policy relevant information on challenges new immigrants face and what resources, if any, are most helpful to their settlement in Canada. The survey uses a longitudinal design interviewing the same selected immigrants at three points in time: six months (Wave 1), two years (Wave 2), and four years (Wave 3) after landing. This design provides a dynamic picture of the experiences of these newly arrived individuals. The target population includes all immigrants and refugees aged 15 or more landed from abroad between October 1st, 2000 and September 30th, 2001. This population accounts for about 170,000 of the 250,000 immigrants landed during the reference period.

From the target population, about 21,000 individuals located in all Census Metropolitan Areas and non-remote Census Agglomerations were selected to participate in the survey. The Wave 1 response rate of 60% yielded 12,040 cases. The Wave 2 response rate was 77% yielding 9,322 cases. Collection for Wave 3 began in November 2004 and was completed in December 2005. The response rate was around 80%, yielding about 7,500 completed cases.

For more information contact Michelle Simard at Michelle.Simard@statcan.ca

Israel Louisa Kadun Burck

The Israel Central Bureau of Statistics (CBS) is redesigning the surveys of business establishments. Several principles guide the new design. First, the annual sample is stratified by industry and size levels and units are drawn with equal probabilities within strata. There is a take-all stratum and several (e.g., one to five) take-some strata for each industry. The Lavallée-Hidiroglou (1988) algorithm with stratification uniform а coefficient of variation (CV) across industries is used to set the strata boundaries and to allocate the base-sample to the take-some strata. The allocation may then be adjusted to meet additional methodological constraints, such as a minimal number of sampled cases in a stratum, a maximal sampling weight and a maximal CV of an estimated value of interest. Second, two types of updates are carried out: (a) an annual update reflecting all the changes in the frame during the preceding year (b) intra-annual (e.g., bimonthly) updates

accounting for births. A sequential permanent random number (PRN) scheme is applied each year to an updated frame to reallocate an annual-base sample. Thus, a maximal overlap of successive annual samples is achieved. For the intra-annual updates, the selection probabilities within each stratum are kept unchanged throughout the year using a Bernoulli scheme. Third, PRNs for the birth modified units are to overcome the discrepancies introduced by the two schemes and to control the overall sample size. For information please contact Tzahi more Makovky at tzahim@cbs.gov.il

The 2008 Israel Integrated Census of Population and Housing. Rising census costs, concerns about respondent noncooperation and the need for more timely data have led a number of countries to develop innovative census designs. Israel's 2008 integrated census uses the Population Registry (PR) as the basis for the 100% enumeration, and a sample survey to evaluate the accuracy of PR addresses and collect the traditional long-form census data. The country is divided into Enumeration Areas (EA's) each containing about 50 households living at geographically contiguous addresses. Enumerators administer guestionnaires to all households in a 20% sample of the EA's. Independently, a list of persons listed in the PR at the sampled addresses is generated. The persons enumerated are compared with those on the PR list to identify those not enumerated. We locate by phone the "PR excess" in order to determine their correct address. Coverage estimates are based on the methodology of Dual System Estimation and represent an extension of the classic model for estimating undercount in census data: the extension accommodates "false captures" in the PR list. On the basis of address information obtained in the field survey we compute undercoverage and overcoverage parameters for estimation groups homogeneous with regard to coverage errors. Using these parameters we compute a census weight for each person in the PR. Census estimates for population groups and/or geographical areas are the sums of the census weights for the persons listed in the PR as members of those groups and/or in those geographical areas. A full description of the 2008 Israel Integrated Census can be found at the CBS web site: http://www.cbs.gov.il/mifkad/census2008e.pdf

> **Lithuania** Danutė Krapavickaitė

LITHUANIA (from Danutė Krapavickaitė)

The 9-th Baltic-Nordic meeting in a series of Workshops, Summer School and Conference on survey sampling theory and methodology was held in Vilnius, Lithuania, June 17-21, 2005. It is a tradition to have an annual meeting of Baltic and Nordic students, survey statisticians and university teachers, usually in one of the Baltic countries. The purpose of the Workshop was

- to strengthen research in the Baltic countries on the theory and methodology of survey sampling and quality evaluation of sample surveys, and to assist their National Statistical Offices to develop the survey methodology of official statistics
- to promote interest in theoretical and methodological problems of survey sampling among students
- to make stronger contacts among the researchers, students and practitioners, and to promote a closer co-operation between the specialists of the Baltic and Nordic countries.

There were 42 participants: from Estonia (10), Finland (3), Latvia (7), Lithuania (12), Portugal (1), Sweden (6), United Kingdom (2), and Ukraine (1).

The main invited lecturer was Prof. Ray Chambers from the University of Southampton and its Statistical Sciences Research Institute. He delivered 8 lectures on the topic "An Introduction to Model-Based Survey Sampling" with the following subtopics:

- 1. Basics of Finite Population Inference
- 2. Model-Based Finite Population Inference
- 3. Robust Model-Based Inference
- 4. Variance and Confidence Interval Estimation
- 5. Calibrated Estimation for Multipurpose Surveys
- 6. Estimation for Domains and Small Areas
- 7. Calibrated Small Area Estimation

8. Transformation-Based Methods of Survey Estimation

Additional lectures were given by

- Dr. Signe Bālina and Dr. Jānis Lapiņš on "Coordinated Samples for Complex Surveys."
- Dr. Pauli Ollila on "Conducting European and National Surveys under the EU Regulations: The Case of EU-SILC and the Finnish Income Distribution Survey."
- Dr. Jose Antonio Pinheiro on "Trends on Multivariate Statistics, My Teaching Experience."
- Prof. Daniel Thorburn on "PPS-Sampling Using the Bulldozer Method."

Most of the Workshop programme was devoted to the presentation of contributed papers by 26 participants, always with an invited discussant. Our Workshops give a very useful opportunity for younger survey statisticians to present their current research and to have it discussed in a friendly atmosphere.

The participants of the Workshop had a Vilnius city sightseeing tour, visited the Trakai castle, and an Open air museum of Soviet sculptures in the Grutas park.

The Programme Committee of the Workshop consisted of Annica Isaksson, Gunnar Kulldorff, Daniel Thorburn and Jan Wretman (Sweden), Imbi Traat (Estonia), Risto Lehtonen (Finland), Signe Bālina and Jānis Lapiņš (Latvia), Aleksandras Plikusas and Danutė Krapavickaitė (Lithuania).

The Workshop was sponsored by The Nordplus Neighbour Programme of the Nordic Council of Ministers, The Bank of Sweden Tercentenary Foundation, the Institute of Mathematics and Informatics (Lithuania), Statistics Lithuania and Vilnius University.

The Workshop was a good incentive for students to deeper studies. As a result of the Workshop. several students wrote applications for Master or Ph. D. studies.

The next Workshop will be held in August 2006, probably in Ventspils, Latvia.

Spain Dolores Lorca

Improvement in the quality of statistics is one of the main objectives of the Spanish National Statistical Institute. For this reason, since 2005, the Institute has established an internal working group, the "Delegated Technical Commission" whose members are two experts of each of the different Units of the Institute. The aim of the Commission is to try to implement а systematic quality management of the official statistics taking into account the Quality Framework developed by Eurostat and the Member countries.

We are interested to assure quality of the statistical process for each one of its stages: frame creation, sample design, data collection and processing, editing and analysis and dissemination. But we are also interested to consider the statistical process as a whole and as part of the larger set of integrated statistics.

A list of quality dimensions for statistical products has been developed for use in the European Statistical System. These dimensions are: relevance, accuracy, timeliness and punctuality, accessibility and clarity, comparability and coherence.

Our approach tries to cover two complementary actions relative to quality. On the one hand, we are working on the evaluation of a set of "Standard Quality Indicators" for the assessment of the quality of some statistics produced according to each quality dimension mentioned above, proposed by the Eurostat Task Force on Quality Indicators.

On the other hand, we are processing and analysing the results of The European Self Assessment Checklist for Survey Managers (DESAP) applied to six surveys carried out at the Institute. DESAP has been designed as a standardised tool for survey managers with the purpose of assessing the quality of their considering statistics and improvement measures. It is a systematic, but in part subjective. qualitv assessment of the dimensions. This approach refers to the follow

up of the statistical process. The first one relating Standard Quality Indicators makes reference to the statistical product.

Moreover, internal audits have been carried out to check the performance of the phases of the statistic process of some surveys by a team of experts of different Units of the Institute to evaluate their quality.

With all these measures, the Institute tries to improve and give quality indicators of the statistical process and outputs following the guidelines defined by Eurostat. For more information please contact Dolores Lorca at <u>mdlorca@ine.es</u>

Sweden Peter Lundquist

Our report highlights some of the contents in the **2004 Annual Report of Official Statistics of Sweden**. This is the third report prepared by the Council for Official Statistics that describes how the system for official statistics is structured and regulated.

The Council for Official Statistics was established in 2002. The council has an advisory function and shall consider matter of principle regarding availability, and the quality and usefulness of official statistics, as well as issues on facilitating the response process for data providers. At the moment 25 government authorities are responsible for the official statistics of Sweden. The statistics are divided into 22 different subject areas and 104 statistical areas.

One interesting thing in the report is the definition of official statistics. The definition is found in the appendix "Guidelines for decisions on contents and scope of the official statistics". The guidelines, which are not mandatory, are supposed to serve as a complement to the laws and regulations. They should support the authorities' decisions on their official statistics, not only in determining the content and scope of statistics but also in determining exactly which statistics are to be marked with the designation Official Statistics of Sweden or the symbol.

To deal with principle issues on facilitating the response process the council has for example decided to measure the time for the response process for all official statistics. In the report, costs of data providers from companies, organizations, municipalities, and county councils are estimated at SEK 569 million. Compared to 2003 cost increased by 4%. The main reason for this increase is the Intrastat survey in connection with the EU expansion on May 1, 2004.

In accordance with section 14 of the Official Statistics Ordinance official statistics related to individuals should be disaggregated by sex unless there are special reasons for not doing SO. In 2004 the government assigned Statistics Sweden to make a study of the statistics in order to official aet an understanding of how the products comply with the requirements that statistics should be disaggregated by sex and to produce advice and guidelines for work with statistics broken down by sex. In the report from the council the result of the review is presented. The advices and guidelines are published in a separate publication.

The annual report can be found on Statistics Sweden's website

http://www.scb.se/gemensamma_filer/_Doku ment/SOS-arlig_redovisn2004_eng.pdf.

The publication **Statistics by sex** (unfortunately only in Swedish) can be found on Statistics Sweden's website too: <u>http://www.scb.se/templates/Standard 75746</u>.asp

For further information, please contact: Elisabet Andersson (elisabet.andersson@scb.se) or Gunilla Lundholm (gunilla.lundholm@scb.se)

United Kingdom Peter Lynn

The Office for National Statistics has been developing plans for a **Continuous Population Survey** (CPS), which is scheduled to begin field work in January 2008. The CPS will initially integrate five existing ONS surveys into one survey operation, namely the Labour Force Survey (LFS), General Household Survey (GHS), Annual Population Survey (APS), Expenditure and Food Survey (EFS) and the Omnibus Survey. It is likely to have an annual sample size of around 270,000 households, making it the largest ever continuous survey in the UK. As well as providing statistical outputs equivalent to those currently provided by the five named surveys, the CPS will provide micro-census type outputs and the flexibility to incorporate other surveys or *ad-hoc* question modules. Links to documents describing the proposed design and setting out the rationale for the survey are at:

http://www.esds.ac.uk/government/cps/

In the interim period before the start of the CPS, the General Household Survey has been redesigned as a rotating panel survey, now known as the GHS(L), in order to meet requirements for European the Union Statistics on Income and Living Conditions (EU-SILC). The questionnaire content has been expanded to include modules on household finances, employment history, housing costs and child care. Each sample household will be interviewed four times at annual intervals, with 10,000 households interviewed each year. A paper describing the changes to the survey can be found at: http://www.esds.ac.uk/government/ghs/links/G HSpaper.pdf

The first three waves of the **Offending, Crime and Justice Survey** (plans for which were outlined in *The Survey Statistician* no. 47) have been completed. The first wave, in 2003, involved interviews with over 10,000 persons aged 10 to 65, including overrepresentation of persons aged 10 to 25 (who constituted half the sample) and ethnic minorities. Those aged 10 to 25 formed a panel sample and were interviewed again in the 2004 and 2005 waves. Additionally, a fresh sample of persons aged 10 to 25 was added at each of waves 2 and 3 and will be followed up annually, each thus constituting a new panel.

The main aim of the survey is to examine the extent of offending, anti-social behaviour and drug use, patterns of repeat offending, pathways into and out of delinquency and the

impact various risk and protective factors have on these pathways. Details of the survey methods and several substantive reports based on the survey data are available from

http://www.homeoffice.gov.uk/rds/offending_s urvey.html

A major methodological project funded by the UK Economic and Social Research Council has investigated the use of dependent interviewing on panel surveys and the nature of measurement error in survey responses regarding income and employment. The **ISMIE** project involved primary data collection with a sample of 1,000 adults who had previously been interviewed as part of the European Community Household Panel Survey, and response validation through linkage of micro-data from government administrative records. A series of papers presenting and discussing the project's findings are available via the project website, http://www.iser.essex.ac.uk/ulsc/methods/rese arch/ismie/

United States Howard Hogan

The U.S. Census Bureau introduced a new quarterly survey of service industry activity in 2004. The Quarterly Services Survey (QSS) was the Census Bureau's first new principal economic indicator in forty years. This survey is the centerpiece of a multifaceted statistical initiative to address longstanding deficiencies in federal statistics covering the service sector. The QSS utilizes North 1997 American the Industry Classification System (NAICS) definitions. The survey initially covered Information (NAICS Sector 51); Professional, Scientific and Technical Services (NAICS 54); and Administrative and Support and Waste Management and Remediation Services (NAICS Sector 56). In addition to the sector totals, the survey produces estimates of turnover (revenue) at selected 3- and 4- digit NAICS levels. These include newspaper and publishina: broadcasting software and telecommunications; information services and data processing; computer systems design and related services; management, scientific

and technical consulting; employment services; and others.

After about a year of development, the US Census Bureau began data collection in March 2004 to obtain information for the 1st guarter of 2004 and the 4th guarter 2003. The Bureau did not begin releasing data until September of 2004. At that time, it released estimates for the 4th guarter of 2003 and the first two quarters of 2004. This delayed release schedule enabled the Bureau to prove in concepts and stabilize processing. The Census Bureau has released estimates 75 days after the end of the reference quarter for every guarter thereafter. In 2005, the Bureau expanded the survey to cover Hospitals (NAICS Subsector 622) and Nursing and Residential Care Facilities (NAICS Subsector 623). In June 2005, the data for these industries were released for the 4th quarter of 2004 and 1st quarter of 2005.

The initial development and expansion to selected health care industries was done so quickly because the US Census Bureau was able to utilize many existing data collection and processing tools. These included our Standard Economic Survey Processing System (StEPS). The Bureau also provides QSS respondents with an Internet reporting option. Again, the Bureau used the established Census Taker Internet data collection system to provide this option. Combined with initial promotions, the response rate of the respondents using Census Taker has overcome mailing as the preferred means of reporting. This has resulted in an unprecedented level of response to this new voluntary program, with weighted dollar volume response rates exceeding 80% and 90% for the information sector.

In 2007-2009, the Census Bureau plans to further expand the survey as funding permits to cover the reminder of health care and social assistance; transportation and warehousing; rental and leasing; arts, entertainment and recreation services; and other services.

Additional information on the QSS can be found at: <u>www.census.gov/qss</u> or you can contact David Lassman at David.M.Lassman@census.gov

CHANGE OF ADDRESS

Members are encouraged to inform the IASS Secretariat of changes of address as soon as possible. Mailings of the proceedings of the IASS papers presented at the ISI sessions, and "The Survey Statistician" will be delayed and may be lost if the Secretariat does not have your correct address.

You may notify Ms. Claude Olivier of your change of address by completing and mailing the Change of Address form given at the end of this newsletter. Alternatively, you can provide the same information to Ms. Olivier by email to claude.olivier@insee.fr.



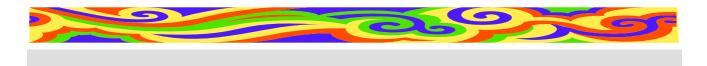
Software reviews over the last several years have presented summaries of the features of a number of systems or components of systems that deal directly with survey estimation issues, particularly sampling error and weighting procedures. They have addressed such systems as Epilnfo, Wesvar, SUDAAN, SAS sampling error PROCedures, Stata, IVEware, and software for generalized regression weighting. Some of this software is available for free over the internet, and others require payment of a licensing fee.

We are considering additional reviews, and we would like to get reader advice about software that has not been reviewed to date, or for updated reviews on some software. We also would like to hear from you about whether there are software systems that address other survey sampling issues that you'd like us to review. Please keep in mind that we review only software that is available for purchase or for free download. We do not review proprietary or other software that our readers cannot purchase or access through a download.

Please send your advice and ideas to Jim Lepkowski, the review editor, at jimlep@umich.edu.

To All Members

- The IASS needs your contribution.
- Please do not forget to renew your membership.
- As of January 2002, French Francs are no longer accepted. As a consequence, the payment of dues and subscriptions must be made in either Euros or U.S. dollars.



ASK THE EXPERTS

Anders Christianson

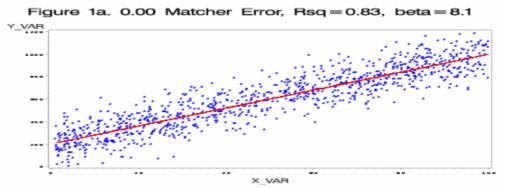
Q. Why collect new data when data are readily available in registers and data banks?

A. William E. Winkler (william.e.winkler@census.gov)

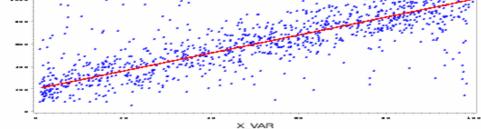
There are three reasons that may limit the suitability of register and other data. The first reason is that certain data in a register may not be accurate if the quality of values of individual fields is not high. Some information such as the value of a sex code or age may be missing or inaccurate because its accuracy is not needed for the day-to-day needs of the database. For instance, a tax file may not need sex code or age to be accurate. The tax file may not accurately track children in those countries where tax breaks are given for dependent children. If the main tax file needs to connect into other files with supplementary tax information, then the quality of the tax id field in each file needs to be high. Any error in the tax id field usually causes the main tax record to not be connected with the correct corresponding supplementary record. The second reason is that a set of files may not have unique, verified identifiers. If the analyst needs to use joint (x, y) data where x comes from one file and y from another file, then xand y-data can usually only be easily and accurately linked using the unique identifiers. The third reason is that an analyst may need an extra *z*-variable to combine with (x, y) data where z is not in any known file. For instance, if z is the amount of tax savings by some individuals due to a specific tax break or the result of a treatment of a particular disease by a new drug.

If sex code is in error (or missing), then it might be corrected using the first name. If age or date-of-birth is missing or in error, then it might be corrected using an auxiliary data source. If matching is on name and address, then name would need to be accurate and address would need to be current. If the file contains 30.000 records with the name 'John Smith,' then an erroneous or out-of-date address would not allow linkage of records across two files. In some situations, it is virtually impossible to match a record 'Karen 1964Apr10' with 'Susan K. Smith Jones 1985Jan07' because Karen Jones now has the last name Smith, she usually uses her middle name Karen instead of Susan, and in one the date-of-birth is completely wrong. With businesses, it may be extremely difficult to match 'John L. Smith and Sons, Inc 1234 Main Street' with 'JLS Co. PO Box 657.' Business names are often represented in a number of difficult-to-compare variations. An address associated with a business may be associated with a location, a PO Box, or the address of an accountant.

False match and false nonmatch rates are needed to evaluate the guality of matching. If the false match rate is moderate or high, then the resultant merged file may yield substantial analytic errors. Figure 1 illustrates the The line represents the true situation. regression line. Figure 1a shows original (x, y) regression data without matching error. Figure 1b shows the regression data with 10% matching error and Figure 1c shows the regression data with 50% matching error. With a 10% false match rate, the regression coefficient is more than 10% in error and the R^2 statistic is low by 25%. With a 50% false match rate, the regression coefficient is more than 50% in error and the R^2 statistic is 75% low. If the false match rate is very low and the false nonmatch rate is moderate, then the intersection $A \cap B$ may not be a representative subset of either file A or file B. For instance, if low income individuals in either file A or file B contain disproportionately higher typographical variation than other individuals, then the low-income individuals will not be well represented in the intersection.







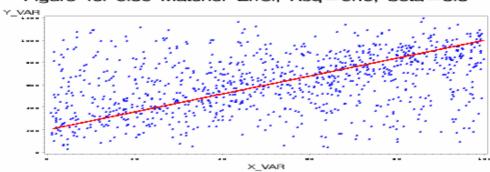


Figure 1c. 0.50 Matcher Error, Rsq=0.19, beta=3.8

Q. When is auxiliary information best used; for sample design or for estimation purposes?

estimating the population totals for a set of

A. Phil Kott USDA/NASS/RDD Phil_Kott@nass.usda.gov To answer this question, we first need some structure. Suppose we are interested in variables based an a random sample of population units drawn from some sampling frame. Aiding this endeavor is a second set of *auxiliary* variables for which we already know the population totals. This auxiliary information can be used at the estimation stage to compensate for units selected for the sample that fail to provide adequate responses and for population units missing from the sampling frame. There are no equivalent potential uses of such information at the design stage.

Even in a textbook environment where the sampling frame is complete and every sampled unit provides a usable response, the combination of a simple random sample and an estimator constructed to make prudent use of the auxiliary information will usually produce better results than a cleverly constructed sample design employing the same information coupled with an expansion estimator (a sample-weighted sum where the weights are the reciprocals of the probabilities of selection).

That is not always the case. In one of the simplest examples of the use of auxiliary information, there is a single variable of interest and a single auxiliary. The value of the auxiliary variable is known and positive for every unit in the population. If the unit-by-unit ratios of the variable of interest and the auxiliary variable behave like independent random variables with a common mean and variance, then for a given sample size, the combination of a sample drawn with probabilities proportional to the auxiliary variable and an expansion estimator will tend to be more efficient (have less variance) than a simple random sample combined with a ratio estimator (an expansion estimator for the variable of interest multiplied by the ratio of the population total for the auxiliary variable and the expansion estimator for the auxiliary variable).

Few surveys are conducted to estimate a single variable total, however. If we have two or more variables of interest each with their own auxiliary, then we can construct a different ratio estimator for each variable total, but we can only draw the sample once. The design may be relatively efficient for one of those variables, but not for all of them. Moreover, with only a modest loss of efficiency, we can use the same calibration estimator for each survey variable. A calibration estimator looks like an expansion estimator but the original sampling weights are replaced by calibration weights. Calibration weights are modifications of the original sampling weights constructed so that the calibration-weighted sum across the sample of each auxiliary variable equals its population total. (Note: The ratio estimator is an example of a calibration estimator in which the calibration weight for a unit is its original sampling weight multiplied by the ratio of the population total for a lone auxiliary variable to the expansion estimator for that auxiliary variable.) There is no equivalent way to design a sample to be as efficient for all variables of interest at once.

This is not to say that auxiliary information should be used in estimation exclusively. Far from it. The National Agricultural Statistics Service calibrates its guarterly crops surveys on as many as 20 auxiliary variables in a state. The agency uses the same set of auxiliary variables in its sample design to assure adequate sample sizes for each variable of interest (if the auxiliary value is zero, the corresponding survey value will likely be zero as well). Moreover, the sample design can be used to increase efficiency of the estimator. As an example of this, recall the single-variable-of-interest-single-auxiliary example discussed above. Suppose again that the unit-by-unit ratios of the variable of interest and the auxiliary variable can be treated as independent random variables with a common mean and variance (formally, this is a model assumption). For a fixed sample size, the design under which the anticipated (model-expected) variance of the ratio estimator is minimized selects units with probability proportional to the auxiliary variable. It turns out that under that design, the original-sample-weighted sum of the auxiliary variable equals its population total, and the ratio estimator collapses into the expansion estimator.

Perhaps the best answer to the question is a Zen one. Mu. Unask it. Auxiliary variables can most profitably be used in sample design and estimation simultaneously.

Kott, Phillip S. and Bailey, Jeffrey T. (2000), "The Theory and Practice of Maximal Brewer Selection with Poisson PRN Sampling," Paper presented at the International Conference on Establishment Surveys, II, Buffalo, New York . Also at http:// www.nass.usda.gov/research/reports/icespap2c8. pdf.

Phil Kott USDA/NASS/RDD 703-877-8000 x102

Articles

Present at the creation? Ivan Fellegi

In the January 2005 issue of The Survey Statistician Anders Christianson wrote an article about "The Launching of the IASS in Vienna 1973". I have subsequently been asked to contribute my recollection of this event which was obviously seminal in the life of IASS and, indeed in that of ISI itself.

The ISI has, for decades now (probably since its beginnings), been searching to find ways to remain relevant. During its 37th Session held in London in 1969 a fundamentally important reappraisal of the mission and modalities of ISI was tabled; the committee which authored it had been chaired by M. G. Kendall ("Report of the Reappraisal Committee"). It contained wide-ranging recommendations which are well worth rereading even today. A segment of the report dealt with the possible creation of new sections within the Institute. It suggested that "if a strong feeling arises that it would be an advantage to create an international association in a new field, we suggest the Institute ought to take the lead and set up such a society as a section of the Institute".

I don't know whether the Reappraisal Committee was initiating a new discussion about sections of ISI or whether it was reacting to ideas already circulating then. As it happens, several of us had, in fact, been agitating for a new section, one devoted to survey methodology, a field that was, in most countries in the late 1960s, still quite an undeveloped field. A very influential advocate was P. C. Mahalanobis. As a "young Turk", indeed a *very* young one, I was also actively agitating in favour of such a development at every available opportunity, whispering in whatever influential ear was polite enough to let me do so. It was during the ISI session in London in 1969 that the Bureau of the ISI (chaired at that time by W. G. Cochran) asked me to join them for a discussion about the possibility of forming a section of the ISI devoted to this new and aggressively evolving discipline. They listened to me making a brief pitch, but it was my sense that they already had their minds made up to give it a try - so I cannot claim that silver-tongued oratory, even less my impeccably argued case, convinced them. As is usual, when you talk too much, you end up being asked to do what you have been agitating for. So I was asked to identify a chair and a small committee whose first task would be to draft terms statutes for the putative new association.

I suggested to the Bureau that the committee consist of J. P. M. R. Desabie, Leslie Kish, M. N. Murthy, M. R. Sampford and S. Zarkovich, and my recommendations were accepted. The drafting committee was in business. Our task was helped by an early draft of the statutes prepared by P. C. Mahalanobis although we did, in fact, draft the new statutes according to what we thought was needed. We worked by correspondence over a period of many months and I must underline what a particularly valuable member Leslie Kish was: he never failed to respond to correspondence and he was full of good ideas – anyone surprised?

We submitted our work to the Bureau – not for approval of the statutes themselves, since we thought (and the Bureau agreed) that only the new association could adopt its own statutes – but to secure their blessing for the formation of a new Section of the ISI. They did, indeed, put forward our recommendations to the General Assembly of ISI during its 38th Session held in Washington in 1971 and this was unanimously accepted. We were asked to reconstitute ourselves as the new leadership of the formally yet to be created IASS: its Bureau, its Program Committee, its Nominating Committee and whatever else might be needed.

Had we been legalistic, we would have been facing an unsolvable problem. First of all, since there was no IASS, we lacked any legitimacy (we were unelected). Second, the Statutes clearly had to be approved by the members of the new Association, but since there was no Association until the Statutes were accepted (and until people enrolled in the new organisation), who would approve the draft statutes? We were aware of these legal niceties but not unduly worried about them. We received a number of time slots within the ISI program for sessions of the new IASS and we set about creating a program. Anders Christianson is guite right in remarking that the program in Vienna encompassed quite a broad range of topics. This was by conscious design: we wanted to establish a precedent for the broad scope of activities of the new organisation.

We also developed a list of people we wanted to nominate as the new (elected) leadership of the yet to be established IASS and we proceeded to sound out informally some leading lights of our profession.

During the first of "our" scientific meetings we set aside part of the available time for the first General Assembly of what became the IASS. Those present were asked to regard themselves as the founding members and they subsequently approved right then and there both the statutes and our proposed slate for the leadership of the new Association, under the presidency of Morris Hansen.

The rest, as they say, is history; except that in this case the entire narrative is that: the early history of IASS.

IN MEMORIAM

M.P. Singh, 1941 - 2005



Dr. Mangala P. Singh was born in India on December 26th, 1941, and received his PhD in 1969 from the Indian Statistical Institute, with a specialization in survey sampling. He joined Statistics Canada in 1970, where he rose to the position of Director of Household Survey Methods Division in 1994, a position he held at his death.

M.P., as he was known to everyone, was a leading figure in the application of statistical methods at Statistics Canada. He was probably most closely associated with the Labour Force Survey, one of the agency's most important surveys. He directed the methodology of the LFS through redesigns in the 1970s, 1980s, 1990s and early 21st century, introducing innovations at every turn, but always ensuring that changes were welltested and sound. In the later years of his career, he also oversaw the development of several new and innovative health surveys and directed the development of statistical programs in the areas of household expenditures, education and justice.

M.P.'s role as the Editor-in-Chief of the journal *Survey Methodology* had a transformative effect on the profession of survey methodology, both in Canada and abroad. M.P. was the founding editor of the journal, and for 30 years he guided its evolution into a flagship publication of Statistics Canada. Thanks to his ability to attract a stellar team of associate editors and contributors, *Survey* *Methodology* is now recognized as one of the pre-eminent journals of its kind in the world. Even in recent years, M.P. continued to introduce innovations such as the Waksberg series of papers and electronic publishing.

M.P. was a source of many other "big ideas" throughout his career at Statistics Canada. During the 1970s he was instrumental in gaining support for the idea of stable funding for methodology research, and he personally chaired the Methodology Research and Development Committee in its formative years. He encouraged numerous researchers and went out of his way to make them feel at home at Statistics Canada. Turning 60 did not stem the flow of ideas in any way. M.P. devoted considerable energy in the past four years to his proposal for a major overhaul of the way household surveys are conducted in Canada. As a result of his efforts, people throughout Statistics Canada are working on ways to implement his vision, and his influence on Canada's household surveys will be felt for many years.

M.P. had a special love for statistical research and for statistics as a profession. He personally authored over 40 papers in international journals, co-edited two books published by Wiley and Sons, and organized sessions and presented papers at numerous statistical conferences. He served on various committees and task forces of the Statistical Society of Canada, the International Statistical Institute and the American Statistical Association. He also served as Secretary of Statistics Canada's external Advisorv Committee on Statistical Methods. In turn, the profession honoured him; he was elected to the International Statistical Institute in 1975, and in 1988 he became a Fellow of the American Statistical Association.

However, it is his influence on an entire generation of statisticians that may be his greatest legacy. He was a mentor, a coach, a patriarch and a friend to all who knew him. He inspired others to give their best, and they did. He was always ready with a laugh, a smile and a friendly word of encouragement. He dedicated his life to the profession of statistics and it is through those whom he touched that his true contribution is measured. He is survived by his wife Savitri, his two daughters Mala and Mamta, and his son Rahul.

Don Royce and Jack Gambino, Statistics Canada

IN MEMORIAM

Edwin D. Goldfield, 1918-2005

Ed was born in New York City in 1918. He earned an MA in statistics from Columbia University and completed some graduate work at American University. He began his career at the U.S. Census Bureau with a temporary appointment in 1940 to work on the processing of the decennial census. That temporary appointment stretched into a 35year government career during which his assignments included program coordinator of the 1950 Decennial Census, chief of the Statistical Reports Division, assistant director of the Bureau and chief of the International Statistics Program Center.

Upon retiring from the U.S. Census Bureau in 1975, he joined the staff of the National Academies' Committee on National Statistics (CNSTAT), serving as study director for an expert panel that produced Privacy and Confidentiality as Factors in Survey Response (National Research Council, 1979). In 1978 he became director of CNSTAT, a position he held until his second retirement in 1987. During this period, CNSTAT issued several influential reports on survey research topics, including incomplete data in sample surveys survev (1983). cognitive aspects of methodology (1984), surveying subjective phenomena (1984), and sharing research data (1985). Following his second retirement, he remained active in federal statistics, maintaining an office at the U.S. Census Bureau, visiting the CNSTAFF about once a month, and directing the Census Alumni Association.

Ed was an elected member of the International Institute, a long-time member of IASS, a past president of the Washington Statistical Society and a Fellow of the American Statistical Association.

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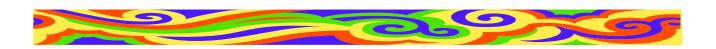
Welcome New Members!



We are very pleased to welcome the following new members:

Country	First Name	Last Name
Algeria	Omar	Bouazouni
Burkina	Emedetemin	Nonfodji
Cameroon	Roselie	Niekou
Chad	Temoi	Demsou
Italy	Mukesh Kumar	Srivastava
Ivory Coast	Raimi	Fassassi
Mauritania	Saadna	Ould Baheida
Philippines	Glenn B.	Barcenas
Senegal	Boubacar	Sow
United States	Shushanik José Moh Yin	Makaryan Argueta Chang
South Africa	Ariane	Neethling
Zimbabwe	Lawrence	Dhliwayo

Dear New Member: For questions or input regarding *The Survey Statistician*, please contact: Steven Heeringa Institute for Social Research 426 Thompson St., Rm 4046 Ann Arbor, MI 48104 USA <u>sheering@isr.umich.edu</u>



Announcements

Cochran-Hansen Prize 2007: Competition for Young Survey Statisticians from Developing and Transition Countries

In celebration of its 25th anniversary the International Association of Survey Statisticians established the Cochran-Hansen Prize to be awarded every two years to the best paper on survey research methods submitted by a young statistician from a developing or transition country.

Participation in the competition for the Prize is open to nationals of developing or transition countries who are living in such countries and who were born in 1967 or later.

Papers submitted must be unpublished original works, They may include materials from the participant's university thesis. They should be in either English or French. Papers for consideration should be submitted to the IASS Secretariat at the address below to arrive by December 29, 2006. Each submission should be accompanied by a cover letter that gives the participant's year of birth, nationality, and country of residence.

The papers submitted will be examined by the Cochran-Hansen Prize Committee appointed by IASS. The decision of the Committee is final.

The winner of the prize will be invited to present his/her paper at the 56th Session of the International Statistical Institute to be held in Lisbon, Portugal, August 22-29, 2007, and the name of the winner will be announced at the ISI General Assembly in Lisbon.

The author of the winning paper will receive the Cochran-Hansen Prize in the form of books and journal subscriptions to the value of about 500 Euros and will have reasonable travel and living expenses paid in order to present the paper at the ISI Session in Lisbon.

For further information please write to: Madame Claude OLIVIER IASS Secretariat International Association of Survey Statisticians CEFIL-INSEE, 3 rue de la Cité, 33500 Libourne, France Tel : +33 5 57 55 56 17 Fax : +33 5 57 55 56 20 E-mail : <u>Claude.olivier@insee.fr</u>

The Third International Conference on Establishment Surveys (ICES-III) Hyatt Regency Montréal Montréal, Québec, Canada, June 18-21, 2007

ICES-III is now accepting proposals for invited sessions. Submission started on September 1 and will close on December 1.

If you or any of your colleagues have proposals for invited sessions, please submit them on the **template** on the Invited Program page on the ICES-III web site:

http://www.amstat.org/meetings/ices/2007/ind ex.cfm?fuseaction=invited

Submissions should be sent to ices3@census.gov

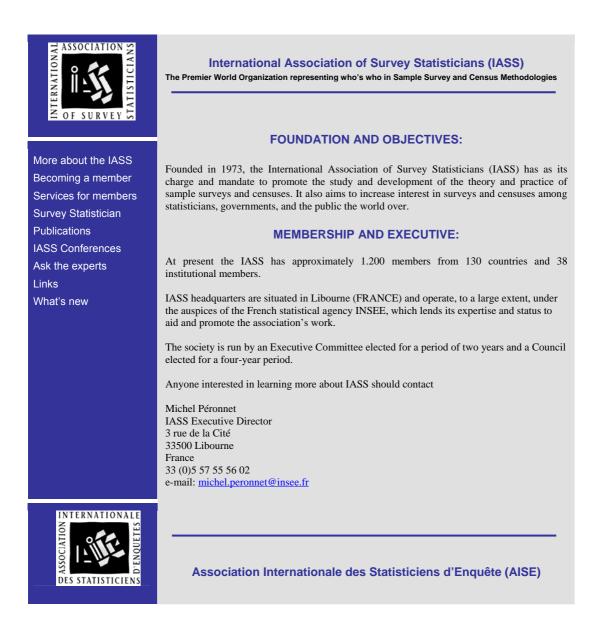
Organizers will be notified by the end of February, 2006, if their proposals have been accepted.

For further conference information, please visit the ICES-III web site:

http://www.amstat.org/meetings/ices/2007/ind ex.cfm

Visit the new and improved IASS web site and read *The Survey Statistician* on line!

http://isi.cbs.nl/iass/index.htm



Important Notices

- A PDF file of the newsletter is available on the IASS web site. Currently, a few members prefer to be notified only when a new issue is posted, instead of receiving the hard copy. At this point we do not have a process in place to support this option. A process will be developed when an adequate number of members choose the above. Until that time, all members will continue to receive hard copies of the newsletter. Please send an e-mail to sheering@isr.umich.edu if you would like to take advantage of this option.
- Members are encouraged to view the IASS website (<u>http://isi.cbs.nl/iass/allUK.htm</u>) and provide comments or suggestions to Eric Rancourt: <u>eric.rancourt@statcan.ca</u>.

In Other Journals



SURVEY METHODOLOGY A Journal Published by Statistics Canada

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Journal of Official Statistics An International Review Published by Statistics Sweden

JOS is a scholarly quarterly that specializes in statistical methodology and applications. Survey methodology and other issues pertinent to the production of statistics at national offices and other statistical organizations are emphasized. All manuscripts are rigorously reviewed by independent referees and members of the Editorial Board.

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All inquires about submissions and subscriptions should be directed to jos@scb.se



STATISTICS IN TRANSITION Journal of the Polish Statistical Association

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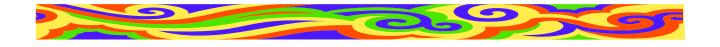
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Announcement

ISI Sessions 2007

	ІРМ Торіс		nmittee oonsible	Orç	ganizer 1		Organ	izer 2 (if av	ailable)	Proposer
Number	Title	Primary	Joint With	Name	Country	Gender	Name	Country	Gender	If not organiser(s)
IPM27	The impact of new information technologies: on survey research design; on a totally new information production model	IAOS	IASS	TBD			TBD			Rosemary Marcuss, Dominic Leung, Mary Chamie
IPM44	Teaching of Survey Statistics	IASE	IASS	Steve Heeringa	USA	male				
IPM47	Information integration: statistical theory when combining and using multiple data sets in concert	IASS	IAOS	Dean Judson						Angela Dale / Frank Yu
IPM48	Designing and Updating Longitudinal Samples	IASS		ТВА		male				Ken Brewer
IPM49	Statistical disclosure control of survey microdata	IASS		Mark Elliot		male				Elvers Eva/Frank Yu
IPM50	Using multiple modes to collecting data in surveys	IASS	IAOS	Peter Lynn	UK	male				Frank Yu/Peter Lynn
IPM51	Confidentialising tables and data with geographically fine breakdown	IASS		Larry Cox		male				Frank Yu / Milorad Kovacevic
IPM52	Prioritising non-response follow-up to minimise mean square error	IASS		Cynthia Clark	USA + UK	female				Frank Yu / Ken Brewer
IPM53	What Censuses and administrative sources can tell us about Non Sampling Errors	IASS		Ray Chambers	UK	male				Ken Brewer
IPM54	Measuring and reporting quality of small area estimates	IASS		ТВА		female				Frank Yu
IPM55	Randomisation-assisted model-based survey sampling	IASS		Phil Kott	USA	male				
IPM56	New methods of sampling	IASS		Yves Tille	Belgium	male				
IPM57	Opinion Polls: Do they do more Harm than Good?	IASS		Murrary Goot	Australia	male				Ken Brewer
IPM58	How ISI can encourage donor and international organizations to strengthen their own statistical capacities	IASS	IAOS	Ibrahin Yansaneh	USA	male				David Fitch

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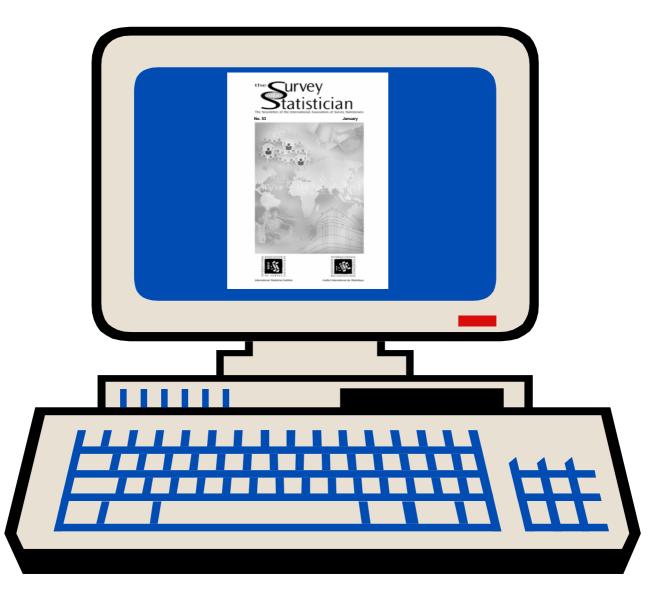
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