

No. 63

January 2011





International Statistical Institute



Institut International de Statistique



Natalie Shlomo and Frank Yu

Section Editors Pierre Lavallée Country Reports John Eltinge Book/Software Review Robert Clark Ask the Experts Leyla Mohadjer and Andrea Piesse New and Emerging Methods

#### <u>Circulation</u> Évelyne Coutant Carolyn Cruden

The Survey Statistician is published twice a year in English and French by the International Association of Survey Statisticians and distributed to all its members. Information for membership in the Association or change of address for current members should be addressed to:

Secrétariat de l'AISE/IASS c/o INSEE-CEFIL Att. Mme Évelyne Coutant 3, rue de la Cité 33500 Libourne - FRANCE E-mail: evelyne.coutant@insee.fr

Comments on the contents or suggestions for articles in *The Survey Statistician* should be sent via e-mail to <u>frank.yu@abs.gov.au</u> or mailed to:

Frank Yu Australian Bureau of Statistics Locked Bag 10 Belconnen ACT 2616 Australia

An electronic version of *The Survey Statistician* can be downloaded from the IASS website: http://isi.cbs.nl/iass/alluk.htm

### In This Issue

#### No. 63, January 2011

- 1 Letter from the President
- 3 Letter from the Editors
- 6 Report from the Scientific Secretary
- 8 Report from the 2011 IASS Election Nominations Committee
- 10 Ask the Experts: Can Web Surveys Provide an Adequate Alternative to Phone and Face-to-Face Surveys?
- 15 Country Reports
  - Australia
  - Canada
  - Italy
  - Lithuania
  - Pacific Islands
- 22 New and Emerging Methods: Emerging Methodology of Web Surveys
- 25 Announcements
- 35 Book and Software Review: Call for volunteers
- 36 In Other Journals
- 49 New Members
- 50 IASS Officers and Council Members
- 51 Institutional Members
- 52 Change of Address Form

Dear Colleagues,

It is hard to believe another year has come and gone. I hope you have all enjoyed a happy and peaceful festive season with family and friends.

Having been asked to undertake a review of household surveys in the ABS, I have been looking at the recent changes and trends in survey and census taking around the world. It is impressive to see the continuing range of innovation and development that is taking place, whether it is in overall design, in specifics of estimation and use of available data, or whether it is in mode of interviewing, or instrument design. New technology is driving much of this, but we are also facing an increasing difficulty in establishing contact with, and response from, householders: our respondents are become ever busier people and with often growing concerns about privacy.

Luckily we have a lot in common around the world in the challenges we face, and it is easy to see the tremendous value to be had in sharing our knowledge and experiences through the IASS, through conferences, workshops, courses, newsletters and publications.

Conferences and workshops planned for July 2010 to June 2011 for which the IASS agreed to provide modest support were: the International Conference on the Multi-level Integrated Database Approach (USA); the Panel Survey Methods Workshop (Germany); the International Conference on Survey Methodology (Italy); the Second International Workshop on Applied Statistics with Special Topics in Survey Sampling and Census Data (Columbia); and the Third Baltic-Nordic Conference on Survey Sampling (Sweden).

In addition two bids were received for support in July 2011-June 2012, and will be considered as part of the next round of funding considerations. Organisers of workshops and conferences to be held between July 2011 and June 2012, and closely related to the aims of the IASS, are invited to email IASS Vice-President Peter Lynn (plynn@essex.ac.uk) giving details of the event, by 31 March 2011.

I am also pleased to report that, thanks to the efforts of Linda Hewitt, the IASS was also successful in having a session on international experiences in Censuses accepted for the ASA Joint Statistical Meetings, July 30 to August 4th 2011 in Florida.

Of course the key conference for the IASS in 2011 is the ISI World Statistics Congress, and the IASS programme of Invited Paper meetings is progressing to plan, thanks to Geoff Lee's work. Further information is provided on this later in this issue. Thanks to Leyla Mohadjer's efforts, the programme of Short Courses offered by the IASS before the World Congress is also coming together very well, and details are provided by Leyla in her report as IASS Scientific Secretary.

The ISI World Statistics Congress, 21-26 August in Dublin, is coming up quickly, so I encourage all those thinking about going, and particularly those thinking of attending the short courses before the congress, to start making their plans.

The ISI World Congress in Dublin is also where the first key discussions between sections of the ISI in relation to the World Congress programme for Hong Kong in 2013 will occur. So if you have ideas of topics that you would like to see included in the IASS Invited Paper Sessions for Hong Kong, now is the time to be in touch with the Chair of the IASS Programme Committee, Eric Rancourt

#### (eric.rancourt@statcan.gc.ca).

Another important part of how we share our knowledge and experience in survey and census methods is through our Country Reports in the Survey Statistician. Most countries in the world are now heavily involved in planning, running, analysing or evaluating a census in their country. It would be wonderful if we could have some of the key features of these censuses in many different countries, shared through our Country Reports section of the Survey Statistician.

Our current list of Country Representatives is given elsewhere in this issue, and if you wish to contribute your experience to the Country Reports, you should contact your Country Representative. If there is no Country Representative listed for your country and you would be interested in becoming more involved in the IASS by taking on this role, please let Vice-President Linda Hewitt (<u>linhew@trinidad.net</u>) know.

A problem we have both for Country Representatives and for members more generally is that email addresses get rapidly out of date. If you change your email address, please let us know by emailing new details to Catherine Meunier (catherine.meunier@insee.fr).

I would also like to thank David Marker and his committee for their work in putting together a strong list of candidates for election to council. I would also like to congratulate those people who have been nominated. The details of the nominations are given later in this issue, and members will shortly be given an opportunity to elect the Council members who will take up their positions at the ISI World Congress in August 2011.

Finally I would like to encourage any members who would like to be more involved in the activities of the IASS to get in touch with me (<u>susan.linacre@abs.gov.au</u>). We are always looking for people to help take initiatives forward.

The IASS is always keen to welcome new members, both individual and institutional. registration form for individuals found on The can be the website (http://isi.cbs.nl/iass/). For those wishing to enquire about institutional membership, please contact the Executive Director. Catherine Meunier (catherine.meunier@insee.fr).

Finally I would like to thank the editorial team for the Survey Statistician, for their excellent work in preparing this issue, and wish all our members all the best for the coming year.

Susan Linacre, President IASS

#### Letter from the Editors

We hope you enjoyed the July 2010 issue of the IASS *Survey Statistician*, and wish to thank those of you who have provided feedback and comments. This issue of the newsletter is devoted to the topic of web surveys. In the New and Emerging Methods Section (edited by Leyla Mohadjer and Andrea Piesse) Mick Couper's article on 'Emerging Methodology of Web Surveys' provides us with stimulating insight into the problems of conducting web surveys. Jelke Bethlehem addresses the following question in the Ask The Experts Section (edited by Robert Clark) - 'Can web surveys provide an adequate alternative to phone and face to face surveys?'. We wish to thank the authors and editors of these sections for their important contributions to the IASS community. Please let Leyla (at <u>leylamohadjer@westat.com</u>) know if you would like to contribute to the New and Emerging Methods Section in the future. If you have any questions which you would like to be answered by an expert, please send your questions to Robert Clark (at <u>rclark@uow.edu.au</u>)

As in the past, this issue of the *Survey Statistician* includes a letter from the President, Susan Linacre. It also includes updates for the upcoming ISI 2011 Conference in Dublin. Leyla Mohadjer, the IASS Scientific Secretary, provides an update on the short courses to be offered at the conference and Geoff Lee, the Chair of the IASS Programme Committee provides an update on the planned IASS Invited Sessions. In addition, we include a report by the Chair of the IASS Nominations Committee, David Marker (at <u>davidmarker@westat.com</u>), on the nominated candidates for the 2011 IASS Elections.

The Country Report Section has always been a central feature of the IASS newsletter. We ask all country representatives to please submit articles and share information regarding current activities, research and applications in survey methods in your countries. All articles should be sent to the editor of this section, Pierre Lavallée at <u>pierre.lavallee@statcan.gc.ca</u>. We would like to update the list of country representatives and have included the current list in this issue. Our hope is that each country has an active representative who can contribute regularly to this section. Any updates and amendments to the list should be sent to Vice-President Linda Hewitt (at linhew@trinidad.net).

Finally, we are still aiming to start a new section on 'Books and Software Review'. We ask for volunteers to contribute to this section. If you are interested in doing a book review or software review, please get in touch with the editor of the section, John Eltinge at <a href="mailto:eltinge.john@bls.gov">eltinge.john@bls.gov</a>.

This issue of the Survey Statistician also includes the Tables of Contents for current journals and advertisements received for upcoming conferences and workshops. If you would like to advertise in the Survey *Statistician*, please send your adverts to the editors: <u>frank.yu@abs.gov.au</u> and <u>n.shlomo@soton.ac.uk</u>.

We wish to thank Victoria Leaver, Jennifer Marley and Henry Chiem of the Australian Bureau of Statistics for their invaluable assistance in putting together this issue of the newsletter, all of the Section Editors, Susan Linacre for her continuing support, the IASS Executive Director, Catherine Meunier and IASS Secretariat Évelyne Coutant, and Carole Jean-Marie for the translations into French.

The *Survey Statistician* is also available for downloading from the IASS website at <u>http://isi.cbs.nl/iass/alluk.htm</u>.

We hope you will enjoy this issue of the January 2011 Survey Statistician. Please send us your feedback and comments on how we can make improvements. Remember, the Survey *Statistician* depends on your commitment and your contribution to its contents. The more contributions we get, the more the newsletter will benefit all of our members.

#### **Contact Information for IASS Country Representatives**

Country

#### <u>Name</u>

Mr. Nacer-eddine Hammouda Ms. Alicia Masautis Mr. Paul Sutcliffe Dr. Camille Vanderhoeft Mr. Walter Castillo Guerra Mr. Moffat Malepa Mr. Marcel de Toledo Vieira Mr. Francois Ilboudo Mr. John Kovar Ms. Maria de Lurdes Lopes Mr. Juan Eduardo Munoz Mr. Huang Langhui Mr. Mhadji Nailane Mr. Cakpo Benjamin Zanou Mr. Luis Carlos Silva Mr. Vaclav Cermak Mr. Peter Linde Dr. Imbi Traat Mr. Jean-Marc Museux Mr. Paavo Väisänen Mr. Benoît Riandey Mr. Jean-Pierre Zima Mefe Dr. Ralf Münnich Mr. Anastassios Iliakopoulos Mr. David Fitch Ms. Fatoumata Danfaca Mr. Emmanuel Charles Mr. Zoltán Csereháti Ms. Luisa Kadun Burck Prof. Claudio Quintano Dr. Rvozo Yoshino Mr. Martins Liberts Prof. Bechara Hanna Dr. Danutė Krapavickaitė Mr. Antonio Baigorri Matamala Ms. Julia Rachel Ravelosoa Dr. Suresh Chandra Babu Mr. Aziz Mohammad

Algeria Argentina Australia Belgium Bolivia Botswana Brazil Burkina Faso Canada Cape Verde Chile China Comoros Côte d'Ivoire Cuba Czech Republic Denmark Estonia Eurostat (Europe) Finland France Gabon Germany Greece Guatemala Guinea Haiti Hungary Israel Italy Japan Latvia Lebanon Lithuania Luxembourg Madagascar Malawi Malaysia

Mr. Lamine Diop Mr. Sidna Ould N'dah Mr. Miquel Cervera Dr. Rudra Suwal Mr. Shyam Upadhyaya Mr. Jos de Ree Ms. Diane Ramsey Mr. John Créquer Mr. Adetoun Aribiki Imolehin Dr. Mark Griffin Mr. Faisal Awartani Ms. Leonara Laguna Mr. Gervacio G. Selda, Jr. Dr. Tomasz Zadlo Mr. Paulo Jorge Gomes Mr. Alexis Lukaku Nzinga Dr. Inho Park **Innocent Ngombe Bibemo** Mr. Matar Gueye Ms. Dolores Lorca Lopez Mrs. Anjeles Iztueta Azkue Mr. Christina Prado Valle Mr. Philippe Eichenberger Mr. Peter Lundquist Dr. Ibrahim Ali Mr. Vitalis Eustach Muba M. Ouagadjio Bandoumal Prof. Oztas Ayhan Dr. Olga Vasylyk Prof. Peter Lynn Mr. Howard Hogan Mr. Federico Segui Dr. Nguyen Quoc Anh

Mali Mauritania Mexico Nepal Nepal Netherlands New Zealand New Zealand Nigeria Pacific Islands Palestine Peru Philippines Poland Portugal D. R. Congo Republic of Korea **Central African Republic** Senegal Spain Spain-Basque Region Spain-Basque Region Switzerland Sweden Svria Tanzania Chad Turkey Ukraine United Kingdom **United States** Uruguay Vietnam



### **Report from the Scientific Secretary**

IASS has organized seven short courses to be offered prior to the 58th World Statistics Congress of the International Statistical Institute (ISI). The courses will be led by internationally known experts and are addressed to practitioners, researchers, and students in statistics and survey methodology. The official language of the courses will be English. The courses will be offered from August 17 – 20, 2011 and will consist of two one-day sessions and five two-day sessions, which will allow participants to take multiple courses. The descriptions of the short courses are posted on the IASS website at <a href="http://isi.cbs.nl/iass/alluk.htm">http://isi.cbs.nl/iass/alluk.htm</a> under Courses.

Planning activities for the IASS short courses are in full gear. We are currently developing a preliminary budget and establishing course fees. To accomplish these goals, we have been communicating with the local organizers and instructors to find out about alternative venues and their costs, possible housing logistics, technology requirements for courses, and variable costs. The course fees will be different depending on the length of the course (one or two-day course), number of courses a participant registers for, group registration, IASS membership status, and whether the country of origin is a developing country or not.

Registration for the short courses and local accommodations will be on-line through the ISI website for the 58th World Statistics Congress at <u>http://www.isi2011.ie/content</u>.

Participation of members from developing countries is very dependent on financial assistance. Please contact Leyla Mohadjer at <u>leylamohadjer@westat.com</u> if you have any suggestions on potential sponsors or related contacts.

#### IASS Satellite Conference on Small Area Estimation

The fourth conference on small area estimation (SAE2011) will take place in Trier, Germany, August 11-13, 2011, to further stimulate and propagate the current research on small area estimation. The SAE2011 is an official satellite conference of the ISI 2011 conference in Dublin. The focus of the conference encompasses theoretical and methodological developments as well as practical applications of small area estimation methods. The conference is part of the activities of the European Working Group on Small Area Estimation. More details on the format of the conference, venue, and pre-registration are available at: http://sae2011.surveystatistics.net

#### Update on the IASS programme for the ISI World Congress in 2011

The IASS Invited Paper Meetings for the 2011 ISI meeting will be:

- IPS54: "Complex analysis for longitudinal data"
- IPS55: "Inference for linked data"
- IPS56: "Estimation and inference in complex survey sampling"
- IPS57: "Data mining and machine learning in statistics organisations"
- IPS59: "Record linking and imputation in administrative data"
- IPS60: "Applying and measuring confidentiality methods"
- IPS61: "New approaches for agricultural statistics"
- IPS62: "Small area estimation for complex surveys"
- IPS63: "Managing the effects of changing measurement technologies on environmental longitudinal surveys"
- IPS64: "Census strategies"

Sixty-eight Special Topics Sessions have now been confirmed for ISI 2011, and there are many sessions that are likely to be of interest to survey statisticians, including:

- STS01: "Theory and Practice of Randomized Response"
- STS03: "The roles of tax data in official statistics"
- STS10: "Developments & Extensions to Tourism Satellite Account"
- STS11: "Developments in Consumer Price Index methodology"
- STS15: "What it takes to Improve a Statistical System"
- STS29: "Census Data Capture Issues in the 2010 Population and Housing Censuses"
- STS30: "Seasonal adjustment in practice"
- STS32: "Measuring the Risk of Disclosure"
- STS43: "Global Adult Tobacco Survey: Findings from BRIC countries"
- STS44: "Methodological aspects of the architecture of official statistics production"
- STS46: "Benefits and Challenges of Providing Online Systems that Analyze Confidential Survey and Census Microdata in Real Time"
- STS47: "Asymptotic properties of Bayesian nonparametric models"
- STS49: "Proposal of International comparable Survey Modules"
- STS50: "Methods and quality of administrative data used in a census"
- STS57: "Visualisation of Complex Data Sets"
- STS58: "Sampling Skewed Populations"
- STS67: "Statistical Validation and Application of Socioeconomic Data from Household Surveys in Less Developed Countries"

For the latest information about the IASS Invited Papers and Special Topic Sessions, see the ISI 2011 website:

<u>http://www.isi2011.ie/content/scientific-programme/ips.html</u> (Invited Paper Sessions) <u>http://www.isi2011.ie/content/scientific-programme/sts.html</u> (Special Topic Sessions)

The ISI 2011 website is now accepting abstract submissions for the Contributed Paper Sessions. Abstracts will be accepted up to the end of February 2011.

#### Update on the IASS programme for the ISI World Congress in 2013

The schedule of activities has been developed for the IASS 2013 program. We are looking for invited paper meeting topics and organizers. At this time, a program committee, chaired by Eric Rancourt (Canada) has been formed, but more members are still needed. The committee includes the following members: Martin Balepa (Africa), Yves Berger (UK), Jean Opsomer (US), Takis Merkouris (Greece) and Tian Xiuhua (China). Suggestions for topics are welcome. For further information, please contact Eric Rancourt at <u>eric.rancourt@statcan.gc.ca</u>.

#### Report of the 2011 IASS Elections Nominating Committee

The IASS Nominating Committee is pleased to propose the following strong list of candidates for the 2011 elections. You will be able to vote for 1 candidate for President (President-Elect from 2011-13, then President in 2013-15), up to 2 candidates for Vice-President, and up to 6 candidates for Council. Due to an unusual situation, the 6 continuing members of the IASS Council are all from either Europe or North America. Therefore all the candidates nominated this time for Council are from other parts of the globe, or focus their careers on supporting statistics in the developing world. Details on voting procedures, and candidate CVs, will be distributed soon.

I would like to thank the members of the 2011 IASS Nominating Committee for all of their hard work: Frank Nolan (New Zealand), Lars Lyberg (Sweden), Dalasay Maligalig (Philippines), Denise Lievesley (UK), Pedro de Silva (Brazil), and Jairo Arrow (South Africa). We have prepared a list of wonderful candidates who will help lead the IASS to bigger and greater times. We have put an added emphasis on expanding the diversity of the IASS elected leadership. After repeated elections where the winning Presidential candidate was from a large country with many IASS members, we have nominated two highly-qualified candidates from smaller countries for this election. For IASS Council we noticed that all six continuing members (2009-2013) are from either North America or Europe. For this election (2011-2015) we have nominated 10 people who either live outside of those areas or regularly work with statisticians outside these two continents.

Please take the time to read their biographical information and then vote for the candidates of your choice. The IASS will send out the biographical information shortly.

David Marker, Chair of the 2011 IASS Nominating Committee

#### 2011 IASS Candidates for Election

#### President (2013-15):

Linda Hewitt (Trinidad and Tobago) Danny Pfeffermann (Israel)

#### Vice-President (2011-2013):

Gustav Haroldsen (Norway) Steve Heeringa (USA)

#### Scientific Secretary (2011-2013):

Frauke Kreuter (Germany/USA) Ineke Stoop (Netherlands)

#### Council (2011-2015):

Tomas Africa (Philippines) Christine Bycroft (New Zealand) Karen Chan (China) Oliver Chinganya (Zambia) Olivier DuPriez (Belgium) Don Royce (Canada) Denise Silva (Brazil)

Azam Khan (South Africa) Frank Krishna Palipudi (India) Natalie Shlomo (Israel/England) Marcel Vieira (Brazil) Alvaro Gonzalez Villalobos (Argentina)



#### Web Surveys

### Can web surveys provide an adequate alternative to phone and face to face surveys?

#### Discussion: Jelke Bethlehem

#### 1. Web surveys

The rapid development of the Internet in the last decades has led to a new type of survey data collection: the web survey. Web surveys are becoming increasingly popular. This is not surprising. A web survey is a simple means of getting access to a large group of potential respondents. Questionnaires can be distributed at very low costs. No interviewers are needed, and there are no mailing and printing costs. Surveys can be launched very quickly. Little time is lost between the moment the questionnaire is ready and the start of the fieldwork. Web surveys also offer new, attractive possibilities, such as the use of multimedia (sound, pictures, animation and movies).

So a web survey seems to be a fast, cheap and attractive means of collecting large amounts of data. This raises the question whether web surveys can be used for data collection in general population surveys. At first sight, web surveys seem to have much in common with other types of surveys. It is just another mode of data collection. Questions are not asked face-to-face or by telephone, but over the Internet. There are, however, some methodological issues. Some of them are discussed here.

#### 2. Under-coverage

General population web surveys may suffer from under-coverage because the target population is usually much wider than the Internet population. For example, according to data from Eurostat, the statistical office of the European Union, 54% of the households in the EU had access to Internet in 2007. There were large variations between countries. The countries with the highest percentages of Internet access were The Netherlands (83%), Sweden (79%) and Denmark (78%). Internet access was lowest in Bulgaria (19%), Romania (22%) and Greece (25%). Internet access will even be lower in other countries in the world.

Even more problematic is that Internet access is unevenly distributed over the population. A typical pattern found in many countries is that the elderly, the low-

educated and ethnic minorities are severely under-represented among those having access to Internet.

To obtain insight in the impact of under-coverage on estimates, suppose a simple random sample is selected from the Internet population. Let the target population of the survey consist of *N* persons. Associated with each person *k* is a value  $Y_k$  of the target variable *Y*. The aim of the web survey is assumed to be estimation of the population mean  $\overline{Y} = (Y_1 + Y_2 + ... + Y_N)/N$  of the target variable *Y*.

The population *U* is divided into a sub-populations  $U_l$  of size  $N_l$  of persons having access to Internet, and a sub-population  $U_{Nl}$  of size  $N_{Nl}$  of persons without Internet access. The sub-population  $U_l$  will be called the Internet population. The sample mean  $\overline{y}_l$  is an unbiased estimator of the mean  $\overline{y}_l$  of the Internet population, but not necessarily of the mean of the target population. Bethlehem (2009) shows that the bias of this estimator is equal to

$$B(\overline{y}_{HT}) = E(\overline{y}_{HT}) - \overline{Y} = \overline{Y}_I - \overline{Y} = \frac{N_{NI}}{N} (\overline{Y}_I - \overline{Y}_{NI}).$$
<sup>(1)</sup>

The magnitude of this bias is determined by two factors. The first factor is the relative size  $N_{NI} / N$  of the sub-population without Internet. Therefore the bias decreases as Internet coverage increases. The second factor is the contrast  $\bar{Y}_I - \bar{Y}_{NI}$  between the means of the Internet-population and the non-Internet-population. The more the mean of the target variable differs for these two sub-populations, the larger the bias will be.

Since Internet coverage is steadily increasing, the factor  $N_{NI}$  / N is decreasing. This has a bias reducing effect. However, it is not clear whether the contrast also decreases. To the contrary, it is not unlikely that the (small) group of people without Internet will be more and more different from the rest of the population. As a result, substantial bias may still remain.

#### 3. Self-selection

The basics of probability sampling as applied now in official statistics have been laid down by Horvitz and Thompson in their seminal paper in 1952. They prove that unbiased estimators of population characteristics can always be constructed, provided samples are selected by means of probability sampling and every element in the population has a known and strictly positive probability of being selected.

Unfortunately, many web surveys are based on some form of self-selection. The survey is simply put on the web. Participation requires in the first place that respondents are aware of the existence of a survey. They have to accidentally visit the website, or they have to follow up a banner, e-mail message, or a telephone call. In the second place, they have to make the decision to fill in the questionnaire on the Internet. The survey researcher is not in control of the selection process. All this means that each element k in the population has unknown probability  $\rho_k$  of participating in the survey, for k = 1, 2, ..., N. Bethlehem (2009) shows that the expected value of the sample mean is equal to

$$E(\bar{y}) \approx \bar{Y}^* = \frac{1}{N} \sum_{k=1}^{N} \frac{\rho_k}{\bar{\rho}} Y_k$$
<sup>(2)</sup>

where  $\bar{\rho}$  is the mean of all response propensities. The bias of this estimator is equal to

$$B(\bar{y}) = E(\bar{y}) - \bar{Y} \approx \bar{Y}^* - \bar{Y} = \frac{C_{\rho Y}}{\bar{\rho}} = \frac{R_{\rho Y} S_{\rho} S_Y}{\bar{\rho}},$$
(3)

in which  $C_{\rho\gamma}$  is the covariance between the target variable and the response probabilities,  $R_{\rho\gamma}$  is the correlation coefficient,  $S_{\rho}$  is the standard deviation of the response probabilities, and  $S_{\gamma}$  is the standard deviation of the target variable. It can be shown that in the worst case ( $S_{\rho}$  assumes it maximum value and the correlation  $R_{\rho\gamma}$  is equal to either +1 or -1) the absolute value of the bias is equal to

$$\left|B_{\max}\left(\overline{y}\right)\right| = S_Y \sqrt{\frac{1}{\overline{\rho}} - 1} \ . \tag{4}$$

Bethlehem (1988) shows the formula (3) also applies in the situation in which a probability sample has been drawn, and subsequently nonresponse occurs during the fieldwork. Consequently, expression (4) provides a means to compare potential biases in various survey designs. For example, regular surveys of Statistics Netherlands are all based on probability sampling. Their response rates are around 70%. This means the absolute maximum bias is equal to  $0.65 \times S_y$ . One of the largest self-selection web surveys in The Netherlands was the public opinion survey described on the website <u>21minuten.nl</u>. Within a period of six weeks in 2006 about 170,000 people completed the online questionnaire. The target population of this survey was not defined, as everyone could participate. If it is assumed the target population consists of all Dutch from the age of 18, the average response propensity is equal to 170,000 / 12,800,000 = 0.0133. Hence, the absolute maximum bias is equal to  $8.61 \times S_y$ . It can be concluded that the bias of the large web survey can be a factor 13 larger than he bias of the smaller probability survey.

General population web surveys based on self-selection are unacceptable if objective is to obtain accurate estimates of population characteristics. Proper probability sampling is required. This is not easy to implement as it requires a sampling frame of e-mail addresses. This is usually not available. The way out is to recruit sample persons using a different such as mail, telephone or face-to-face. For example, a letter can be sent to all sample persons containing the Internet address of the survey questionnaire and a unique identification code.

#### 4. Weighting adjustment

It is often attempted to correct for a bias due to under-coverage or self-selection by applying some kind of weighting adjustment technique. Weighting requires auxiliary variables. These variables must have been measured in the survey, and moreover information on their population distribution (or complete sample distribution) must be available. By comparing the population distribution of an auxiliary variable with its response distribution, it can be assessed whether or not the sample is representative for the population (with respect to this variable). If these distributions differ considerably, one must conclude that the sample is selective. To correct this, adjustment weights can be computed. Weights are assigned to all records of observed elements. Estimates of population characteristics can now be obtained by using the weighted values instead of the unweighted values.

Post-stratification is a well-known and often used weighting method. To carry out post-stratification, one or more qualitative auxiliary variables are needed. Together

they divide the target population into a number of strata (i.e. sub-populations). Identical adjustment weights are assigned to all elements in the same stratum. The bias of the estimate based on weighted data will be small if there is (on average) no difference between participants and non-participants. This is the case if there is a strong relationship between the target variable and the stratification variables. This situation is referred to in the literature as Missing at Random (MAR). The variation in the values of the target variable manifests itself between strata but not within strata. In other words, the strata are homogeneous with respect to the target variable. Unfortunately, such auxiliary variables are not very often available, or there is only a weak correlation.

#### 5. Measurement errors

Traditionally, general population surveys are face-to-face surveys or telephone surveys.

Can a web survey be an alternative for such surveys? With respect to data collection, there is a substantial difference between face-to-face and telephone surveys on the one hand and web surveys on the other. Interviewers carry out the fieldwork for face-to-face and telephone surveys. They are important in convincing people to participate in the survey, and they also can assist in completing the questionnaire. There are no interviewers in a web survey. It is a self-administered survey. Therefore quality of collected data may be lower due to higher nonresponse rates and more errors in answering questions. However, response to sensitive questions is higher without interviewers. Moreover, respondents may be more willing to give truthful but socially undesirable answers in a web survey.

CAPI and CATI are the computer-assisted forms of face-to-face and telephone interviewing. Computer-assisted interviewing (CAI) has the advantage that error checking can be implemented. It means that answers to questions are checked for consistency. Errors can be detected during the interview, and therefore also corrected during the interview. It has been shown CAI can improve the quality of the collected data. The question is whether error checking should be implemented in a web survey? What happens if respondents are confronted with error messages? Maybe they just correct their mistakes, but it may also happen that they will become annoyed and stop answering questions. There may be a trade-off here between nonresponse and data quality. Further research should make clear what the best approach is.

#### 6. Mixed-mode surveys

A web survey can be one of the modes in a mixed-mode data collection approach. Each mode of data collection (face-to-face, telephone, mail, web, etc) has its advantages and disadvantages. Mixing data collection modes provides an opportunity to compensate for the weakness of each individual mode. This can reduce costs and at the same time increase response rates and data quality. Several mixed-mode data collection strategies are possible.. An interesting approach from the point of view of reducing costs is to start with a web surveys. Nonrespondents are followed up by the next cheapest mode (CATI), and finally remaining nonrespondents by the most expensive mode (CAPI). Another strategy could be to let respondents select their preferred data collection mode.

A major concern for mixed-mode data collection is that data quality may affected by the occurrence of mode effects. This is the phenomenon that asking a person the same question in different data collection modes would lead to different answers. An example is asking a closed question with a substantial number of answer options. The respondent in a face-to-face survey would be presented a show card with all possible answers. In case of a telephone survey, the interviewer would read all possibilities to the respondents. Research indicates that this results in a preference for the last options in the list (recency effect). Respondents offered a drop-down list in a web survey have a preference for answers early in the list (primacy effect).

#### 7. Selected reading

Bethlehem, J.G. (2009), Applied Survey Methods, A Statistical Perspective. John Wiley & Sons, Hoboken, NJ.

Couper, M. P. (2008), Designing Effective Web Surveys. Cambridge University Press, New York, USA.

Dillman, D.A., Smyth, J.D. & Christian, L.M. (2009), Internet, Mail, and Mixed-mode Surveys, The Tailored Design Method. John Wiley & Sons, New York.

#### Ask the Experts - Call for Questions

If you'd like to ask the experts a question, please contact Robert Clark <u>rclark@uow.edu.au</u>.



#### <u>Australia</u>

### Novel spatial interpolation methods for environmental properties: using point samples of mud content as an example

Geoscience Australia provides geoscientific and spatial information to Government, industry and community for making informed decisions about improved resource management and environmental protection. A key component of Geoscience Australia's marine program involves developing products that contain spatial information about the seabed for Australia's marine jurisdiction. This spatial information is derived from samples collected over a number of years using many different sampling methods. There is added complexity because the samples are typically sparse or unevenly distributed, particularly in the deep ocean, and the data is of variable quality, having been derived from many refinements and improvements in analysis methods over time. Spatial interpolation methods are used for generating spatially continuous information from the point samples. These methods are, however, often data- or even variable- specific and it is difficult to select an appropriate method for any given dataset. Machine learning methods, like random forest (RF) and support vector machine (SVM), have proven to be among the most accurate methods in disciplines such as bioinformatics and terrestrial ecology. However, they have been rarely previously applied to the spatial interpolation of environmental variables using point samples.

To improve the accuracy of spatial interpolations to better represent the seabed environment for a variety of applications, including prediction of biodiversity and surrogacy research, Geoscience Australia has conducted two simulation experiments to compare the performance of 14 mathematical and statistical methods to predict seabed mud content for three regions (i.e., Southwest, North, Northeast) of Australia's marine jurisdiction since 2008. These methods include machine learning methods (e.g., RF, SVM), geostatistical methods (e.g., ordinary kriging (OK) and kriging with external trend), inverse distance squared (IDS), regression kriging, and the combination of RF or SVM with OK or IDS (i.e., RFOK, RFIDS, SVMOK and SVMIDS).

The results of the simulation experiments reveal that prediction accuracy varies with the method, sample density, sample stratification, choice of secondary variables, search window size, model averaging, and the study region. Compared to the control method (IDS) which is routinely used in modelling of environmental variables, the best combined methods reduce the overall prediction error by up to 19%. In addition, these methods also capture many additional regional trends such as transitional zones between geological and topographic features not evident when applying IDS.

The study confirmed the effectiveness of applying machine learning methods to spatial data interpolation, especially in combination with OK or IDS, and also confirms the effectiveness of averaging the predictions of these combined methods. Moreover, an alternative source of methods for spatial interpolation of both marine and terrestrial environmental properties using point survey samples has been identified, with associated improvements in accuracy over commonly used methods.

For further information please contact Jin Li, Geoscience Australia at email: jin.li@ga.gov.au

#### <u>Canada</u>

#### a) The Canadian Community Health Survey

The Canadian Community Health Survey (CCHS) was originally designed as two distinct survey vehicles that would alternate on an annual basis. The first vehicle was designed to collect general health information from a sample of 130,000 respondents over a one-year period to provide cross-sectional estimates for more than 100 health regions (HRs) in Canada. There were three such surveys conducted in 2001, 2003 and 2005. The second vehicle was designed to focus on a specific health topic and to collect data from a smaller sample of about 30,000 respondents again over a one-year period in order to provide estimates at the provincial level. To date, three of these surveys have been conducted: Mental Health and Well-Being in 2002, Nutrition in 2004 and Healthy Ageing in 2009. Beginning with the 2009 survey, these focused content surveys are conducted every three years, the next one being on Mental Health in 2012.

For the first vehicle, to meet increasing and emerging demands, CCHS was redesigned in 2007 to be a more flexible and timely survey. Two major initiatives were implemented: a new collection approach and a new content structure. Under the new collection approach, data is collected on a continuous basis. An annual sample of 65,000 respondents is allocated equally to six nationally representative two-month collection periods. A multi-mode approach is still used where data is collected through face-to-face and telephone interviews. Once collected, the two-month samples or panels can be cumulated to estimate for different time periods and different socio-demographic and geographic domains.

Also starting in 2007, content is collected in the form of core, theme, and optional. Core content is the general health information that is collected continuously. Theme content is information that is collected on a specific health topic for a specific period of time depending on the subject matter and precision required. Optional content is the content chosen by health regions that may be collected over a one-year period but will generally need two years of collection in order to have a sample large enough for detailed estimation at the HR level. Finally, there is a supplementary buy-in capacity built into the survey that allows for flexibility in the collection of data on emerging issues.

One of the key features of the theme content is the Rapid Response option. A maximum of two minutes of new content can be added relatively quickly, conducted over one collection period, i.e. two months, processed, weighted and released within six months after collection. This option has been very popular for CCHS.

For more information, contact Jeff Latimer (613-951-7030 or <u>ieff.latimer@statcan.gc.ca</u>), Health Statistics Division or Michelle Simard (613-951-6910 or <u>michelle.simard@statcan.gc.ca</u>), Household Survey Methods Division, Statistics Canada, Ottawa, Ontario, K1A 0T6.

#### b) The Integrated Business Statistics Program

Statistics Canada's Unified Enterprise Survey (UES) was introduced over ten years ago. In the first year, it consisted of seven surveys but since then it has grown significantly and now covers over sixty different annual surveys. During this time, many changes have occurred as with the integration of each survey, the methodology and the infrastructure have been adapted to satisfy the changing needs. On top of that, important modifications to the methodology have been introduced throughout the decade in an effort to reduce response burden, streamline the cost of the survey and increase the use of auxiliary information, notably tax data. Therefore, after more than ten years of constant change, it is now time to take a step back and rethink the entire UES methodology and framework. Once completed, the new program will be called the Integrated Business Statistics Program (IBSP) and will not only include the existing UES surveys but will also integrate other existing business surveys some of which are sub-annual surveys.

As one can imagine, there are many challenges in a project of this scope. Instead of trying to cover all projects where methodologists at Statistics Canada will be involved, we note a few areas where they will play a lead role. For example, methodologists will lead the investigation of a two-phase sample design for activitybased surveys or those that contain variables that cannot be controlled for during sample selection (such as commodities, capital machinery costs, etc.). In addition to sampling, methodologists will be heavily involved in the development of quality indicators as a stopping rule within a proposed rolling estimates framework. With the increased used of administrative data, methodologists are investigating ways to incorporate the quality of tax data into survey quality indicators. Finally, the development of indicators of non-response bias will be led by methodologists working on the IBSP.

For more information, please contact Wesley Yung, wesley.yung@statcan.gc.ca.

#### <u>Italy</u>

#### Claudio Quintano

#### The unrest in the working relationship

In the aim of insert a module about the experience of the workplace unrest within the survey on the *Citizens' Safety*, the Italian National Institute of Statistics (ISTAT) begins to investigate a topic of great social relevance but not easy to define: *The unrest in the working relationship*.

In this way, for the first time ISTAT disseminates data on the personnel 'problems in the working environment.

The Citizen's Security survey (2008-2009) includes an *ad-hoc* module through to an agreement with the *Department of Equal Opportunities* of the Presidency of the Council of Ministers which funded the project.

ISTAT begins to investigate this issue using both the analysis quoted in national and international literature and the research experiences of other Countries.

The ISTAT performs the survey "*unrest in employment relations*" including the *subdued behavio*r (which is characterized by a clear intention of persecution or discrimination directed at a person, repeated over time; the author of the conduct is either an employer, a colleague or a subordinate) and *demotion* (*cutting of the remits*). The total *cutting of the remits* is characterized by an over time effect (for example, due to an action to remove the own staff, to cut important roles - such as management roles – etc).

The survey has been conducted through the CATI technique (September 2008 - April 2009) involving 40,629 of the 60,001 units involved in the Citizens' Security Survey. The *unrest in the working relationship* is divided into two sections: the first set of questions has the aim to assess the respondent's experiences during their working life (in the last three years and in the last 12 months); the second set of questions concerns only the victims of the unrest *in the working relationship* in the last three years.

For more information Linda Laura Sabbadini and Maria Giuseppina Muratore - Phone N. 39.06.4673.7453

#### 15 ° Census of Population and Housing

The Italian National Institute of Statistics (ISTAT) is organizing the 2010-2011 censuses in innovative ways, using several foreign experiences.

The new aspects concerns both informative side (questionnaires with more information than the previous) and organization side (new data collection techniques).

The aim is to reduce the survey *burden* (also on the local organizations) and to improve the data quality (with particular reference to accuracy and timeliness).

The following sections have been involved in the innovative aspects:

- The municipal registry lists of households and cohabitations (and other auxiliary lists both at the local and the national level) will be used
- For the first time the questionnaires will be distributed by mail and not by the data collectors (the respondents can choose among different solutions for return their questionnaires web, mail, collection centers)
- The strategy involves new techniques to recovery the missing data.

For more information - www.istat.it/censimenti/popolazione2011/

#### <u>Lithuania</u>

#### Danutė Krapavickaitė

#### **Events on Survey Sampling in Vilnius**

Two important events on Survey Sampling took place in Vilnius in summer 2010.

The first of them was the 10<sup>th</sup> Vilnius conference on probability theory and mathematical statistics held on June  $28^{th}$  – July  $2^{nd}$ . The sequence of conferences started in 1973 and provided venue for the meetings of the scientists from all over the world. The main feature of these conferences was that in addition to the common plenary lectures the programme included many parallel working sessions devoted to the popular branches of probability theory and mathematical statistics, collection of which was changing with the years. The field of survey sampling was geting some strength in Lithuania, and session on survey sampling was included into the programme of the conference already the second time. Professor Gunnar Kulldorff from Umeå University (Sweden) organized the work of the session. The main talks were given by three invited speakers: Chris Skinner "Estimating frequencies of frequencies", F. J. Breidt and G. Chauvet "Penalized balanced sampling", Camelia Goga "Nonparametric estimation for nonlinear parameters in presence of auxiliary information". 14 contributed papers were presented afterwards by statisticians from Great Britain, France, Poland, Nordic and Baltic countries. It was nice to have outstanding statisticians at the conference in Vilnius, appearance of which incouraged young people to involve themselves into research.

The second event was a Workshop on survey sampling theory and methodology (<u>http://vilniusworkshop2010.stat.gov.lt</u>) which took place in Vilnius on August 23<sup>rd</sup> – 27<sup>th</sup>. It was an annual event of the Baltic-Nordic-Ukrainian Network on survey sampling (<u>http://wiki.helsinki.fi/display/bnu</u>). The objectives of the workshop were

- To present scientific achievements, own experience and results of research and applications in survey sampling
- To learn from the teachers and colleagues
- To discuss practical and theoretical problems of survey statistics
- To share opinions on teaching, studies, research and implementation of knowledge into the practical sample surveys
- To strengthen contacts between the survey statisticians of the Baltic, Nordic countries, Ukraine and Belarus

The motto of the workshop was: exchange of knowledge between generations. Therefore the wide range of participants varies from students and PhD students to professors. There were 2 series of the main lectures. The first of them was given by Li-Chun Zhang from Statistics Norway on "Some recent developments in statistical theory on register-based statistics". Professor Carl-Erik Särndal from Sweden gave another series of lectures on "On nonresponse in surveys: problems, methods, treatment". 5 invited lectures were given by other scholars: Dr. Dan Hedlin, Professor Risto Lehtonen, Mārtinš Liberts, Dr. Markus Gintas Šova, Dr. Imbi Traat, Dr. Olga Vasylyk, including training in the computer class. 31 participants made individual presentations analysed by invited discussants and followed by general discussion.

The round table discussions on the topics relevant to many people and their problems attracted big attention of the participants. Rich social programme of the workshop gave possibility for the participants to make acquaintance, to strike up the contacts, to get the stimulus for the enthusiastic work and wilingness to take part in the future events organised by the Network.

The sponsors of the Workshop were the Nordplus Higher Education Programme of the Nordic Council of Ministers, Statistics Lithuania and Vilnius University, other organizing institutions and the home institutions of the participants.

The next planned event is a conference on survey statistics in Sweden in June 2011.

#### **Pacific Islands**

#### Mark Griffin (<u>m.griffin@uq.edu.au</u>) 17/11/2010

It is with great pleasure that I introduce the Pacific Islands as a new geographical region supported by the International Association of Survey Statisticians Country Representatives. For the purposes of the Survey Statistician we shall define the Pacific Islands as those countries in Oceania other than Australia and New Zealand. This is still a vast region with approximately 9.5 million people. Some of the most well-known countries within this region include Fiji, Papua New Guinea, and Vanuatu. In this first report from this region I shall focus on three major activities – the OPIC study of obesity, the Pacific Malaria Initiative Support Centre (PacMISC), and the establishment of the first "International Conference for Health Statistics in the Pacific Islands".

The Obesity Prevention In Communities study (OPIC) evaluated the effectiveness of obesity prevention programs in New Zealand, Fiji, Tonga, and Australia. The Pacific Island region has the highest rate of obesity in the world, and yet there is limited information on the causes and patterns of obesity within this region. For the Fiji portion of this study a total of 9785 students enrolled in the study and were allocated to a treatment or a control group. The treatment group consisted of 3530 students from 7 different schools in the Nasinu region, and the control group consisted of 6255 students from 11 schools in Sigatoka, Nadi and Lautoka. The treatment consisted of a tailored series of in-depth interviews, workshops, and other health prevention programs. The major findings of this study were that there were no significant changes in the number of overweight students between the treatment and control groups within a four year period following the start of the study. However the study did lead to an increased understanding of the characteristics of students that were most prone to obesity. The OPIC study begin in 2004 is due for completion at present, and has led into the recently established Translation Research into Obesity Prevention In Communities (TROPIC) study that will continue until 2012. More information about the OPIC and TROPIC studies can be found at http://www.fsm.ac.fj.

Malaria is still endemic in 10 countries in the Western Pacific, and is a major obstacle in achieving economic stability within the affected communities. The Pacific Malaria Initiative Support Centre (PacMISC) is a key body exploring the causes and possible interventions for the elimination of malaria in the region. In one of their many studies they consider a cluster-randomized control trial comparing three bed nets for the reduction of malaria in the Solomon Islands. Bed net acceptability and preference were evaluated through surveys at three time-points following the trial of each bed net within a study population of 208 participants. Three brands of bed nets were considered Olyset©, PermaNet©, and DuraNet©. PermaNet® was found to be significantly more acceptable then either Olyset® or DuraNet®. More information about malaria studies such as this one and the activities of PacMISC can be found at http://pacmisc.net). Building statistical capacity is of great need within the Pacific Island region. Hence it is with great pleasure that we announce the first "International Conference for Health Statistics in the Pacific Islands". The conference will be held from the 5<sup>th</sup> to the 8<sup>th</sup> of July 2011 in Suva, Fiji, and is being organized through the joint effort of members of Statistics Without Borders (American Statistical Association), the Health Policy Statistics Section (American Statistical Association), the Statistical Society of Australia, the Fiji School of Medicine, and the University of the South Pacific (Mathematics Department). We welcome statistical experts from around the world to nurture and develop statistical expertise within the Islands. More information about this conference can be found at <u>http://www.statsoc.org.au/pacifichealth</u>



### **New and Emerging Methods**

#### Emerging Methodology of Web Surveys

Mick P. Couper, PhD University of Michigan

It is hard to believe that Web or Internet surveys have been around for only about 20 years. In this time we have seen rapid growth of this method of data collection, a great deal of research on measurement and inferential issues relating to Web surveys, and continued debate on the role of this tool in the survey researcher's tool kit. This short article reviews some of the recent and emerging trends in Web survey methodology.

There has been vigorous debate in the literature about sampling and inferential issues related to Web surveys since their beginning. This trend has continued unabated. A large proportion of Web surveys over the past decade or so has been done using opt-in or access panels. There are increasing concerns about the quality of these panels (see AAPOR, 2010). One example of such concerns is indications of over-saturation – the problem of too many panels and too many surveys chasing too few willing respondents. Evidence of this comes from the declining participation rates in such surveys, and the increased effort needed to get the desired number of respondents. Several recent presentations by market research clients have also pointed to the volatility of results obtained from such panels. There is also growing concern about duplicate, fraudulent, and inattentive respondents, and research is being done on ways to identify and deal with such problems. Increasing respondent engagement is a key focus of the online market research world, again suggesting problems with over-saturation.

Given the problems faced by online access panels, researchers and organizations are exploring a number of alternatives, including river sampling and its variants, the use of social media (e.g., Facebook or Twitter) for recruitment to surveys or as sources of indirect information (see Poynter, 2010), and so on. Researchers continue to discuss the merits and conduct research on tools such as propensity score adjustment (PSA) in efforts to correct for the biases associated with volunteer panels. Post-survey adjustments (such as PSA) for volunteer surveys may reduce bias in some circumstances, but not in others. Adjustments that rely on demographics only do not fully account for the selection into such panels (for more on PSA, see Bethlehem, 2010; Lee, 2006; Schonlau et al., 2009).

Another trend relates to the development of probability-based research panels. Examples include Knowledge Networks and Gallup in the U.S., CentERdata's LISS panel in the Netherlands, and similar efforts getting underway elsewhere. Some of these are large-scale (national) efforts, while others are more research-oriented and less ambitious in scope. A variety of probability-based sampling and recruitment methods are being used to develop these panels, from face-to-face recruitment to random digit dialed (RDD) telephone surveys and address-based sampling (ABS) approaches with mail recruitment. Several recent papers have emerged from these

efforts on the quality and cost of this approach relative to telephone surveys or self-selected (volunteer) panels.

Much progress has been made on the measurement side. A large number of papers have been published on how the design of Web survey instruments affects the answers obtained. Some of this work has yielded unexpected results, generating continued discussion and research. For example, a number of studies have found progress indicators in Web surveys to be ineffective in reducing break-offs. Similarly, several tests of increased interactivity of Web surveys (whether to improve measurement or increase respondent engagement) have not achieved the desired gains (one example being the use of visual analog scales or sliders). On the other hand, the research has demonstrated the importance of careful design for minimizing measurement error and has led to a number of useful design recommendations (see, e.g., Couper, 2008). Much of this work has been conducted on surveys of individuals, rather than of establishments (organizations or businesses), but attention is increasingly focused also on this area. While we have learned a lot about how to design effective Web survey instruments, much work remains, especially in the area of leveraging the interactivity and rich media of the Web to improve survey measurement.

Another area receiving much research attention is the role of Web surveys in a mixed-mode environment, especially combining Web with telephone surveys. Somewhat ironically, as the field turns away from RDD telephone surveys and explores address-based sampling (for those countries without registers), traditional mail is making a comeback, both as a way to recruit sample persons to Internet or mixed-mode surveys or as a method of data collection (with or without an Internet option). Several studies have found that offering a Web option to a mail survey may actually suppress rather than increase response rates. However, sequential mixed-mode designs that start with one mode then switch to another (more expensive) mode for those unwilling or unable to respond in the first mode, show some promise. While offering Web as part of a mixed-mode strategy may save money, it may not result in large increases in response rates.

Furthermore, combining modes brings additional measurement error challenges, especially when Web (a predominantly visual and self-administered mode) and telephone (aural and interviewer administered) are combined. A range of solutions are being proposed and evaluated, ranging from design approaches that attempt to minimize the mode differences to statistical approaches that attempt to correct for the measurement differences. The challenge of incorporating Web surveys into a mixed-mode strategy without focusing solely on minimizing costs or maximizing response rates, remains an important area for research.

A great deal of research has focused on Web surveys since their introduction – probably more than on any other survey mode in the same time frame. This is in part due to the ease with which experimentation can be done in Web surveys and the relative cost of such studies. But more work remains to be done, and Web surveys continue to be a vigorous area of methodological research as the Internet evolves and as survey applications using the Web expand.

It is fair to say that the effect of the development of Web surveys on the survey profession has been – and continues to be – profound. In some sectors, online surveys dominate; in others, they are a major option, whether as standalone surveys or as part of a mixed-mode strategy. Web surveys dramatically change the cost of survey data collection and the speed with which survey data can be produced. In

this way, they have democratized the survey profession, putting a tool in the hands of those who could not otherwise afford to conduct surveys.

Web surveys have generated vigorous and healthy debate about their merit relative to other methods of data collection and whether this expansion of the survey tool is a good or bad thing for the profession. This debate will likely continue for some time. Web surveys have also led to growth in experiments and other research on the question-answering process, and have led to new insights into measurement error in surveys.

With the ability to randomize and generate new survey content, the advent of Web surveys has also led to a blurring of the line between surveys and experiments. Over the past few years, we have seen many new developments in the uses of Internet technology to explore new ways of asking survey questions, deliver a variety of stimulus material online, and elicit responses from survey participants. In these ways, Web surveys can be seen as an engine for innovation in survey design.

In summary, Web surveys present both challenges and opportunities for survey researchers. The method is still evolving, and our understanding of the strengths and weaknesses of online surveys, and how best to use them, continues to develop. The next few years are likely to see continued research and development on Web surveys.

Where can one learn more about these developments in Web survey methodology? Papers are presented regularly at survey methods conferences (such as ISI, JSM, ESRA, AAPOR), but there are also more specialized conferences (e.g., General Online Research conference, Mobile Research conference) and workshops focusing on this topic. Information on both publications and conferences can be found at <u>www.websm.org</u>, a site devoted to Web survey methodology and related methods. Here one can find out about forthcoming events and gain access to past presentations and papers.

#### References

AAPOR (2010), *AAPOR Report on Online Panels*. Deerfield, IL: American Association for Public Opinion Research.

Bethlehem, J. (2010), "Selection Bias in Web Surveys." *International Statistical Review*, in press.

Couper, M.P. (2008), *Designing Effective Web Surveys*. New York: Cambridge University Press.

Lee, S. (2006), "Propensity Score Adjustment as a Weighting Scheme for Volunteer Panel Web Surveys." *Journal of Official Statistics*, 22 (2): 329-349.

#### New and Emerging Methods – Call for Volunteers

If you're interested in contributing an article to the "New and Emerging Methods" section of a future edition of *The Survey Statistician*, please contact Leyla Mohadjer at <u>leylamohadjer@westat.com</u>

### Announcements

G



# Join the largest international gathering of statisticians in the **WOrld**...

#### Key Dates

**Registration will open on April 28, 2011.** 

- September 30, 2010
   CE Proposal Deadline
- December 1, 2010
   Abstract Submission Opens

 $( \cap$ 

- January 14, 2011
   CTW Proposal Deadline
- February 1, 2011
   Abstract Submission Closes (11:59 p.m. Eastern)
- March 30, 2011
   Online Program Available

# Third Baltic-Nordic Conference on Survey Statistics, 13-17 June 2011 in Sweden

The Third Baltic-Nordic Conference on Survey Statistics – *BaNoCoSS 2011*– will be held on 13-17 June 2011 in High Cost area, Eastern Sweden. (See <u>http://www.norrfallsviken.com</u>)

Main speakers will be:

Jean-Claude Deville (France), Generalized calibration, balanced sampling and application to nonresponse

Giovanna Ranalli (Italy), Nonparametric regression in inference for finite populations

Steven Thompson (USA), *Adaptive sampling* 

Among invited speakers can be mentioned Anders Norberg, Sweden, Selective data editing, Risto Lehtonen, Finland, Estimation of domains and small areas, Natalie Shlomo, United Kingdom, Statistical disclosure control, Ineke Stoop, Netherlands, Comparability in multinational surveys and Imbi Traat, Estonia Consistent domain estimation in multisurvey situations

Contributed submissions are welcome on any topic related to the theme of the conference. Special sessions are planned on Survey methodology, Unequal probability sampling, Reweighting and calibration, Small area estimation, Special topics in official statistics and ESS, Model-based and Bayesian methods, Foundations of Survey Sampling, but we also invite contributions on other topics in survey sampling. If you wish to present a paper or poster, please submit a one-page abstract by e-mail before 25 April, 2011. Announcement of paper acceptance will be given by 13 May 2011. The conference language is English.

Preliminary important dates:

March 31, 2011	Early registration ends (with reduced registration fee)	
April 1 - June 12, 2011	Late registration (higher registration fee applies)	
April 25, 2011	Deadline for submission of titles and abstracts	
	of contributed papers and posters	
May 13, 2011	Announcement of paper acceptance	
June 12, 2011	(Sunday) Arrival to the conference	
June 13-17, 2011	(Monday-Friday) Conference sessions	
June 17, 2011	(Friday afternoon) Departure	

More details will be found on the home page https://wiki.helsinki.fi/display/bnu/events



#### Panel Survey Methods Workshop 2010 Call for papers

We are inviting submissions for papers to be presented at the Panel Survey Methods Workshop, 5-6 July 2010 at the University of Mannheim, Germany. Papers should address important methodological topics that are unique to the design and implementation of panel surveys.

The aim of the workshop is to foster discussion and initiate methodological research specific to the collection of panel survey data. The format of the meeting will be informal, designed to encourage interaction and collaboration. Presentations will be limited to a 10 minute summary of key findings or ideas, in order to allow generous time for discussion. All participants will have had a chance to study materials in advance, as presenters will be asked to circulate a handout before the meeting. The meeting will end with a brainstorming session, to identify a research agenda of the key issues.

The focus is primarily on surveys that involve collecting data from subjects on multiple occasions (panel surveys). Note that the workshop is concerned with the data collection methods used by such surveys, not with the substantive findings. Topics of interest include, but are not limited to, the following:

- Assessment of non-response bias (unit, item, and wave) on longitudinal surveys;
- Assessment of sample attrition on longitudinal surveys;
- Adjustment methods for non-response and attrition, including imputation and weighting;
- Panel conditioning, seam effects and other measurement error issues specific to longitudinal surveys;
- Dependent interviewing and other methods of improving longitudinal measurement;
- Cross-national comparability in panel surveys;
- Effects of using mixed modes of data collection;
- What information to collect about the data collection process; how to use paradata in later waves;
- Refreshment sampling;
- New developments: biomarkers, online panels, matrix sampling, remote access, linking data sources, consent issues, experimental designs for panel surveys.

Papers may provide a review of research and practice in a particular methodological area, present the findings of new methodological research or outline planned research for which the presenter would like feedback. Submissions will be screened by the scientific committee, who will select papers that address relevant topics and collectively provide a balanced programme.

Submissions should consist of an abstract of no more than 500 words, describing clearly the topic that will be addressed, the material that will be drawn upon and the key messages of the paper. The deadline for submission of abstracts is 31 December 2009. Authors will be informed whether or not their submission has been accepted by 31 January 2010. Authors of accepted papers will be required to register for the workshop, to submit a handout (which could consist of the slides or some key tables with notes) by 18 June 2010, for circulation prior to the workshop, and to present their paper orally.

Please submit abstracts to psmw2010@mzes.uni-mannheim.de

Registration for the workshop is free of charge. Otherwise, participants have to finance themselves. While we would like to encourage active participation, presentation of a paper is not a requirement for participation in the workshop. Please note that places will be limited to about 50 persons.

Regards, the Scientific Committee: Axel Börsch-Supan Josef Brüderl Mick Couper Annette Jäckle Peter Lynn Jürgen Schupp Department of Statistics, University of Economics in Katowice

Department of Statistical Methods, University of Łódź

Polish Statistical Association

*Invite for the 7<sup>th</sup> conference* 

### Survey Sampling in Economic and Social Research

#### September 2011, Katowice, Poland

Detailed information:

#### http://web.ue.katowice.pl/metoda

#### **Topics may include:**

- 1. Estimation of population parameters based on complex samples
- 2. Statistical inference based on incomplete data
- 3. Small area estimation
- 4. Sample size and cost optimization in survey sampling
- 5. Sampling designs
- 6. Statistical inference using auxiliary information
- 7. Model-based estimation
- 8. Longitudinal surveys
- 9. Practical implementations of sampling methods
- 10. Sampling in statistical quality control
- 11. Sampling in auditing

### The 4<sup>th</sup> Conference of the European Survey Research Association (ESRA) Lausanne, Switzerland 18-22 July 2011

To be considered for inclusion in the scientific programme of ESRA 2011, please submit an abstract of your paper containing no more than 250 words via the ESRA website:

#### http://surveymethodology.eu/conferences/

To submit a presentation, you must sign up or log in to the ESRA website. After logging in with your account, click "Propose a new presentation" to start submitting.

The closing date for submission of paper proposals is 14 January 2011.

Proposals are invited in any area of survey methodology, or in substantive areas of survey research. We particularly welcome submissions in the following areas:

- Sampling and sample design
- Web surveys
- Unit Nonresponse and attrition
- Item nonresponse
- Weighting and imputation
- Question testing and piloting
- Survey mode
- Data linkage
- Election polling and public opinion
- Survey analysis techniques
- Methods for cross-national analysis
- Paradata and fieldwork
- Substantive applications
- Longitudinal surveys
- Data archiving

#### The inaugural ESRA award for the best paper submitted by an earlycareer researcher

Researchers within five years of the completion of their doctorate or within five years of starting a career in survey research who wish to be considered for the ESRA Early-Career Researcher award should submit full papers to the prize committee. The winning paper will be awarded a prize of 600 euros. More information about the Early-Career Researcher award will be announced on the conference website.

Professor Patrick Sturgis, Conference Chair Kathrin Kissau, FORS (local organising committee) Marieke Voorpostel, FORS (local organising committee)

Contact information: conference@surveymethodology.eu

#### ITACOSM11 Second ITAlian COnference on Survey Methodology – Call for Papers

June 27-29, 2011, Pisa, Italy

http://www.itacosm11.ec.unipi.it/

#### Organizer

The Permanent Working Group of the Italian Statistical Society on "Sample Survey Methodology" (<u>http://www.gruppocampioni.ec.unipi.it/</u>), with the support of the International Association of Survey Statisticians, the Italian Statistical Association, the University of Pisa.

#### **Conference Aims**

This conference serves as a scientific forum on development, testing, and application of survey sampling methodologies in the fields of economics, of social and demographic sciences, of official statistics and in the studies on biological and environmental phenomena.

ITACOSM11 is intended to offer a forum for discussion, aiming at sharing knowledge and scientific results, networking, strengthening national and international cooperation, building future strategies for development of different research topics.

#### **Conference topics**

Sampling design, estimation and non response, Non sampling errors, Sampling elusive and biological populations, Small area estimation, Data integration and statistical matching, Panel data and longitudinal analyses, Statistical methods in agriculture.

#### **Keynote Speakers**

The following speakers have agreed to participate:

- Ray Chambers (University of Wollongong, AU),
- Gauri Datta (University of Georgia, USA)

#### Important Dates

Title and extended abstract submission deadline: March, 31st, 2011

Papers should be sent in pdf format to <u>itacosm11@dsm.unipi.it</u>

Instructions for authors are available on the conference website.

#### 2011 International Methodology Symposium



Statistics Canada November 1-4, 2011 Ottawa, ON, Canada

#### Strategies for Standardization of Methods and Tools – How to get there

#### Call for Contributed Papers

Statistics Canada's 2011 International Methodology Symposium will take place at the new Ottawa Convention Centre, located in the heart of downtown Ottawa, from **November 1**<sup>st</sup> to 4<sup>th</sup>, 2011.

The Symposium will be titled "Strategies for Standardization of Methods and Tools – How to get there". Members of the statistical community, such as those from private organizations, governments, or universities, are invited to attend, particularly if they have a special interest in methodological issues resulting from the standardization of statistical methods and tools.

The first day will consist of workshops, while the following days will consist of both plenary and parallel sessions covering a variety of topics. Additional research and results may be presented via poster sessions.

We are soliciting contributed papers related to the **methodological** issues resulting from the standardization of statistical methods and tools. Topics may include:

- Sampling Frames and Sample Design
- Coordinating Samples
- Content and Questionnaire Design
- Data Collection
- Administrative Data
- Generalized Systems
- Registers (population, enterprises, etc.)
- Time Series
- Data Processing

- Edit and Imputation
- Weighting and Estimation
- Dissemination and Data Access
- Record Linkage
- Measurement Errors
- Treatment of Nonresponse
- Confidentiality
- Quality Control and Evaluation
- International Surveys

Your proposal must be submitted by e-mail to: <u>symposium2011@statcan.gc.ca</u> by **March 31<sup>st</sup>, 2011**. It should include a 250-word abstract (French or English) of the content of the presentation, as well as its title and your full contact information. We will contact you by **May 20<sup>th</sup>, 2011** to inform you whether or not your proposed communication has been accepted. In the case where it has been accepted, the final slides of your presentation will have to be submitted (in English or French) by **September 9<sup>th</sup>, 2011**. Proceedings from the conference will be published and disseminated to participants. Your final paper will need to be sent by **December 23<sup>rd</sup>, 2011**.

Visit our Internet site regularly to obtain further details about the program, workshops, registration, accommodation, tourism information and more at

http://www.statcan.gc.ca/conferences/symposium2011/index-eng.htm

\*

Statistics Statistique Canada Canada



#### Conference on Small Area Statistics (SAE2011) 11 to 13 August 2011

The aim of the **SAE 2011** is to stimulate the current research on small area estimation. The focus of the conference is either theoretical and methodological developments or practical applications of small area estimation methods.

The SAE 2011 is official **satellite conference of the ISI 2011** conference in Dublin. The conference is part of the activities of the European Working Group on Small Area Estimation (EWORSAE; see top links).

More details on the format of the conference, venue, and pre-registration will follow early in **October** at latest.



#### Trier

The SAE2011 will take place in Trier the oldest City of Germany. The picturesque valley of the river Mosel with its flourishing vineyards gave already the roman emperors a good reason to stay in Trier. The best known building of this age is the Porta Nigra (Black Gate). Even after its 2000 years of history, nowadays entirely intact and a place to visit.

But Trier has much more to offer than just the Porta Nigra. Three roman termae an ancient roman theatre, and many more places are worth to visit.

Not only friends of history are attracted by Trier. Its middle-age buildings around the market places invites for coffee and the local gastronomy offers meals in a the large culinary spectrum. Dear Colleagues,

The eighth World Congress in Probability and Statistics will be in Istanbul from July 9 to 14, 2012. It is jointly organized by the Bernoulli Society and the Institute of Mathematical Statistics. Scheduled every four years, this meeting is a major worldwide event for statistics and probability, covering all its branches, including theoretical, methodological, applied and computational statistics and probability, and stochastic processes. It features the latest scientific developments in these fields.

The program will cover a wide range of topics in statistics and probability, presenting recent developments and the state of the art in a variety of modern research topics, with in-depth sessions on applications of these disciplines to other sciences, industrial innovation and society. It will feature several special plenary lectures presented by leading specialists. In addition, there will be many invited sessions highlighting topics of current research interests, as well as a large number of contributed sessions and posters.

The venue of the meeting is Grand Cevahir Hotel & Convention Center located in Istanbul which is a vibrant, multi-cultural and cosmopolitan city bridging Europe and Asia. Istanbul has a unique cultural conglomeration of east and west, offering many cultural and touristic attractions, such as Hagia Sophia, Sultanahmet, Topkapı Palace and Maiden's Tower. On behalf of the Program Committee and the Local Organizing Committee, we invite you to join us in Istanbul for this exciting scientific event. Your participation will ensure that the 2012 World Congress will be a memorable meeting.

Elvan Ceyhan and Mine Caglar, (Co-chairs of the Local Organizing Committee)

Arnoldo Frigessi, (Chair of the Program Committee)





#### **Call for Invited Paper Session Proposals**

As the fourth in the series of international conferences on establishment surveys, ICES-IV is designed to look forward at key issues and methods pertaining to establishment surveys. We invite you to submit a proposal for an invited paper session by March 1, 2011. The ICES-IV program committee will review the proposals and notify session organizers by the end of May 2011 to let them know whether their proposal has been accepted.

Invited sessions will have three 25-minute presentations, a 15-minute formal discussion in which a discussant draws out the main themes of the session and asks questions of the authors, and a 5–10-minute floor discussion.

#### **Proposal Submission**

Online submission of invited session proposals will open December 1, 2010, and close March 1, 2011 at www.amstat.org/meetings/ices/2012. Session organizers will be asked to submit a proposal describing the session topic and why it is important or what has changed since ICES-III in 2007 and include the names of session presenters and abstracts for each presentation. If a session proposal is accepted, session presenters will be asked to upload an abstract to the conference system by September 30, 2011.

There are limited invited sessions, and the program committee is seeking sessions of a consistently high quality for ICES-IV, so we request that organizers provide sufficient information to clearly demonstrate the importance of the topic and the quality of its contributions. We encourage proposals that incorporate presenters and perspectives from different countries and agencies/departments.

If a proposal is not accepted as an invited session, the organizer will be invited to resubmit the session as a topic-contributed session. The deadline for contributed papers (including topic-contributed sessions) is August 31, 2011. Information about the differences between the invited and contributed sessions and their formats is available at www.amstat.org/meetings/ices/2012.







### **Book and Software Review**

We are interested in fostering review of books and software in the area of survey methods. This would include standard review of individual books or software packages. This may also include broader reviews of groups of text and monographs in specific sub-areas; or similarly broad reviews of available software. Of particular interest are some of the new R libraries that have been developed recently for survey methods. If you are able to write a review for this section, please contact John Eltinge at eltinge.john@bls.gov.

### **In Other Journals**



Survey Practice



#### www.surveypractice.org

### Response Mode and Bias Analysis in the IRS Individual Taxpayer Burden Survey

J. Michael Brick, Westat; George Contos, Karen Masken and Roy Nord, Internal Revenue Service

### Does the Timing of Offering Multiple Modes of Return Hurt the Response Rate?

E. Nicole Bensky, Michael Link and Chuck Shuttles, The Nielsen Company

### Comparison of Paper, Web and IVR Responses in the Verterans Health Administration Survey

Robert Teclaw, Katerine Osatuke, Boris Yanovsky, Scott Moore and Sue Dyrenforth, Department of Veterans Affairs

#### Multi-Mode and Method Experiment in a Study of Nurses

Christopher R. Friese and Cheryl S. Lee, University of Michigan; Sara O'Brian and Scott D. Crawford, Survey Sciences Group, LLC

On the Necessity to Include Personal Interviewing in Mixed-Mode Surveys Bart Buelens and Jan van den Brakel, Statistics Netherlands

**Standardized Attempt Codes for Unified Multi-Mode Case Histories** David Chearo and Martha Van Haitsma, the University of Chicago



http://w4.ub.uni-konstanz.de/srm/

Effects of Different Inceptives on Attrition and Fieldwork Effort in Telephone Household Panel Survey Oliver Lipps The Impact of Incentives and Interview Methods on Response Quantity and Quality in Diary and Booklet Based Surveys Jens Bonke, Peter Fallesen

# Sampling and Estimation Techniques for the Implementation of New Classification Systems: the Change-over from NACE Rev. 1.1 to NACE Rev. 2 in Business Surveys

Jan van den Brakel

### Collecting Genetic Samples in Population Wide (Panel) Surveys: Feasibility, Nonresponse and Selectivity

Matthias Schonlau, Martin Reuter, Juergen Schupp, Christian Montag, Bernd Weber, Thomas Dohmen, Nico A. Siegel, Uwe Sunde, Gert G. Wagner, Armin Falk



#### Journal of Official Statistics

http://www.jos.nu/

Current Issue: September 2010, Vol. 26 No. 3 Published Date : 08-October-2010

The 2009 Morris Hansen Lecture: The Care, Feeding and Training of Survey Statisticians Sharon L. Lohr

**Discussion** Donsig Jang

**Discussion** James M. Lepkowski

**Discussion** David Morganstein

The Role of the Joint Program in Survey Methodology in Training U.S. Federal Statisticians Richard Valliant, Roger Tourangeau, Janice Lent

Statistical Careers in United States Government Science Agencies Neil Sedransk

Recruitment, Training and Retention of Statisticians in the U.S. Federal Statistical Agencies Clyde Tucker

#### Contact Strategies to Improve Participation via the Web in a Mixed-Mode, Mail and Web Survey

Anders Holmberg, Boris Lorenc, Peter Werner

#### Comparison of Verbal Behaviors Between Calender and Standardized Conventional Questionnaires Ipek Bilgren, Robert F. Belli

#### Using Audio Computer-Assisted Self-Interviewing and Interactive Voice Response to Measure Elder Mistreatment in Older Adults: Feasibility and Effects on Prevalence Estimates

Scott R. Beach, Richard Schulz, Howard B. Degenholtz, Nicholas G. Castle, Jules Rosen, Andrea R. Fox, Richard K. Morycz

#### Bilingual Questionnaire Evaluation and Development Through Mixed Pretesting Methods: The Case of the U.S. Census Nonresponse Followup Instrument

Jennifer Childs, Patricia Goerman

#### Using XBRL in a Statistical Context. The Case of the Dutch Taxonomy Project Marko Roos

#### **Book Reviews**



#### http://www.statcan.gc.ca/ads-annonces/12-001-x/toc-tdm-eng.htm

**Fence Method for Nonparametric Small Area Estimation** Jiming Jiang, Thuan Nguyen, J. Sunil Rao

#### **Gross Flow Estimation in Dual Frame Surveys** Yan Lu, Sharon Lohr

#### **Bayesian Penalized Spline Model-Based Inference for Finite Population Proportion in Unequal Probability Sampling** Qixuan Chen, Michael R. Elliott, Roderick J.A. Little

#### The Effect of Nonresponse Adjustments on Variance Estimation David Haziza, Katherine Jenny Thompson, Wesley Yung

### A Comparison of Variance Estimators for Poststratification to Estimated Control Totals

Jill A. Dever and Richard Valliant

Some Contributions to Jackknifing Two-Phase Sampling Estimators Patrick J. Farrell, Sarjinder Singh

A Comparison of Sample Set Restriction Procedures Jason C. Legg, Cindy L. Yu

The Multidimensional Integral Business Survey Response Model Mojca Bavdaz

Examining Survey Participation and Response Quality: The Significance of **Topic Salience and Incentives** 

Lazarus Adua, Jeff S. Sharp

Evaluating Within Household Selection Rules Under a Multi-stage Design Tom Krenzke, Lin Li, Keith Rust

#### Journal



Statistical Journal of the IAOS: Journal of the International Association for Official Statistics PublisherIOS PressISSN1874-7655 (Print) 1875-9254 (Online) 
 Statistical Journal of the IAOS
 Subject Group Subject Group Comments
 Mathematics Mathematics And Manageria Sciences

 Online Date
 Friday, August 10, 2007
 10

Volume 26, Number 3-4 / 2009/2010

http://iospress.metapress.com/content/i1h231w7858g/

Official Statistics and Microdata – Assess and Confidentiality Editorial

An OECD Perspective on Microdata Access: Trends, Opportunities and Challenges

Nadim Ahmad, Koen De Backer, Yearnok Yoon

Supporting Research and Protecting Confidentiality. ABS Microdata Access: **Current Strategies and Future Directions** Siu-Ming Tam, Kim Farley-Larmour, Melissa Gare

From a Seed to a Forest: Microdata Access at Statistics Canada Gustave Goldmann

Release of European Union Microdata, ESS Projects on Remote Access Aleksandra Bujnowska, Jean-Marc Museux

New Zealand's Approach to the Provision of Access to Microdata John Upfold, Patrick Ng

#### **UK Release Practices for Official Microdata**

Felix Ritchie

Resolving the Tension Between Access and Confidentiality: Past Experience and Future Plans at the U.S. Census Bureau Lucia Foster, Ron Jarmin, Lynn Riggs

The Case for an International Statistical Innovation Program – Transforming National and International Statistics Systems Brian Pink, Jenine Borowik, Geoff Lee



#### **ISI - International Statistical Institute**

Volume 78, Number 1, April 2010

http://isi.cbs.nl/ISR/ISR78-1.htm

Announcing Web-Based Submission Process: Scholar One Manuscripts Hadi, A.S.

Call for Papers for a Special Issue of the International Statistical Review on Energy Statistics Hadi, A.S.

Assessing the Effect of Data Collection Mode on Measurement Jackle, A. Roberts C., Lynn, P.

**Calibration Estimation in Survey Sampling** Kim, J.K., Park, M.

**A Review of Hot Deck Imputation for Survey Non-response** Andridge, R.R., Little, R.J.A.

**A Model for Positively Correlated Count Variables** Moller, J., Rubak, E.

On the Decomposition by Subgroups of the Gini Index and Zenga's Uniformity and Inequality Indexes Radaelli, P.

**Profile Likelihood and Incomplete Data** Zhang, Z.

**Modelling and Estimation for Bivariate Financial Returns** Fung, T., Seneta, E.





An International Journal of the Polish Statistical Association

#### Volume 11, Number 1, July 2010

http://www.stat.gov.pl/cps/rde/xbcr/pts/SiT\_11\_1.pdf

#### Message from the Editor: Comparative Surveys – A New Section in the Journal

Sampling and Estimation Methods:

An Informative-Theoretic Approach to the Measurement Error Model Al-Nasser, A.D.

Clustering Financial Data Using Copula-GARCH Model in an Application for Main Market Stock Returns Czapkiewicz A., Basiura B.

**Tobacco Use and its Impact on Respiratory Health: A Statistical Approach** Agarwal, G.K., Trivedi, M., Jha U., Jha, R.K., Shukla R.K.

Bhattacharya and Holla Distribution and Some of its Interesting Properties and Applications

Hassan, A., Bhat, M.A.

Generalized Class of Synthetic Estimators for Small Areas Under Systematic Sampling Scheme

Pandey, K.K., Tikkiwal, G.C.

Extreme Value modelling of the Maximum Temperature: A Case Study of Humid Subtropical Monsoon Region in India Shukla, R.K., Trivedi, M. Kumar, M.

Estimation of Population Mean at Current Occasion in Presence of Several Varying Auxiliary Variates in Two-Occasion Successive Sampling Singh, G.N., Priyanka K.

Robust Estimation of Finite Population Total Srivastava, M.K., Srivastava, N.

#### **Other Articles:**

**The Generalized Formula for Aggregative Price Indices** Bialek, J.

Polish Statistics Day Domanski, C. The Economic Aspects of Contradiction Between Generations in Poland Kudrycka, I., Radziukiewicz, M.

Statistical Choice Between Rating and Raking Method of Scaling Consumer Values

Tarka, P.

Contiguity Matrix of Spatial Units and its Properties on Example of Land Districts of Podkarpackie Province Wagner, W., Mantaj, A.

#### **Conference Reports:**

2010 International Conference on Comparative EU Statistics on Income and Living Conditions, Warsaw, Poland, 25-26 March 2010

SCORUS Conference "Relations Between Generations and Challenges of an Ageing Society", Berlin, 29-31 March 2010



http://repository.cmu.edu/jpc/

#### **Selected Forthcoming Paper:**

Anonymous Authentication Yehuda Lindell

Current Issue: Volume 2, Issue 1 (2010)

Editorial: In This Issue Stephen E. Fienberg

Schneier on Security: Privacy and Control Bruce Schneier

Engaging Privacy and Information Technology in a Digital Age: Executive Summary James Waldo, Herbert S. Lin, Lynette I. Millett

Thinking About Privacy: Chapter 1 of 'Engaging Privacy and Information Technology in a Digital Age' James Waldo, Herbert S. Lin, Lawrence H. Cox

Protecting Individual Privacy in the Struggle Against Terrorists – A Framework for Program Assessment: Executive Summary William J. Perry, Charles M. Vest

The Science and Technology of Privacy Protection: Appendix L of 'Protecing Individual Privacy in the Struggle Against Terrorists'

William J. Perry, Charles M. Vest

#### Releasing Microdata: Disclosure Risk Estimation, Data Masking and Assessing Utility Natalie Shlomo

On the Difficulties of Disclosure Prevention in Statistical Databases of The Case for Differential Privacy Cynthia Dwork, Moni Naor

Releasing Private Contingency Tables Shubha U. Nabar, Nina Mishra



#### Volume 3, Issue 2, August 2010

http://www.tdp.cat/issues/vol03n02.php

#### **P-Sensitive, K-Anonymity with Generalization Constraints** Alina Campan, Traian Marius Truta, Nicholas Cooper

#### Movement Data Anonymity Through Generalization

Anna Monreale, Gennady Andrienko, Natalia Andrienko, Fosca Giannotti, Dino Pedreschi, Salvatore Rinzivillo, Stefan Wrobel

#### The PROBE Framework for the Personalized Cloaking of Private Locations Maria Luisa Damiani, Elisa Bertino, Claudio Silvestri

#### Efficient Anonymizations with Enhanced Utility

Jacob Goldberger, Tamir Tassa

# **BIOMETRIKA**

### Biometrika Vol. 97, No. 3

http://biomet.oxfordjournals.org/content/current

**Penalized Likelihood Methods for Estimation of Sparse High-Dimensional Directed Acyclic Graphs** Shojaie, A., Michailidis, G.

A New Approach to Cholesky-Based Covariance Regularization in High Dimensions

Rothman, A.J., Levina, E., Zhu, J.

Penalized Bregman Divergence for Large-Dimensional Regression and Classification Zhang Colliang V Chai V

Zhang, C., Jiang, Y., Chai, Y.

Shape Curves and Geodesic Modelling Kenobi, K., Dryden, I.L., Le, H.

A Class of Grouped Brunk Estimators and Penalized Spline Estimators for Monotone Regression Wang, X., Shen, J.

On the Asymptotic Behaviour of the Pseudolikelihood Ratio Test Statistic with Boundary Problems Chen, Y., Liang, K.Y.

Accurate and Robust Tests for Indirect Inference Czellar, V., Ronchetti, E.

**Detecting Simultaneous Changepoints in Multiple Sequences** Zhang, N.R., Siegmund, D.O., Ji, H., Li, J.Z.

Sufficient Cause Interactions for Categorical and Ordinal Exposures with Three Levels

VanderWeele, T.J. **Bounded, Efficient and Doubly Robust Estimation with Inverse Weighting** Tan, Z.

Analysis of Cohort Studies with Multivariate and Partially Observed Disease Classification Data Chatterjee, N., Sinha, S., Diver, W.R., Feigelson, H.S.

A Semiparametric Additive Rate Model for Recurrent Events with an Informative Terminal Event Zeng, D., Cai, J.

Attributable Fraction Functions for Censored Event Times

Chen, L., Lin, D.Y., Zeng, D.

Estimating Species Richness by a Poisson-Compound Gamma Model Wang, J.P.

**Properties of Nested Sampling** Chopin, N., Robert, C.P.

#### Miscellanea:

**Empirical Likelihood Methods for Two-Dimensional Shape Analysis** Amaral, G.J.A., Wood, A.T.A.

Strictly Stationary Solutions of Autoregressive Moving Average Equations Brockwell, P.J., Lindner, A.



http://www.rss.org.uk/main.asp?page=3003

#### Journal Series A: Current and Forthcoming Papers

Volume 173 (2010), Part 4

Using Administrative Data to Improve the Estimation of Immigration to Local Areas in England

P. Boden, P. Rees

Combining Available Migration Data in England to Study Economic Activity Flows Over Time P.W.F. Smith, J. Raymer, C. Giuletti

Random-Effects Models for Migration Activity and Retentivity: a Bayesian Methodology

P. Congdon

Bayesian Forecasting of Immigration to Selected European Countries by Using Expert Knowledge

J. Bijak, A. Wisniowski

**Estimation of International Migration Flow Tables in Europe** G.J. Abel

### **Journal of the American Statistical Association**



Current Issue Volume 105, Number 492, pp. 1285-1651

#### http://pubs.amstat.org/toc/jasa/105/491

#### **Applications and Case Studies:**

**The Value of Multiproxy Reconstruction of Past Climate** Bo Li, Douglas W. Nychka, Caspar M. Ammann

**Comment: Hierarchichal Statistical Modeling for Paleoclimate Reconstruction** Noel Cressie, Martin P. Tingley

#### Comment

Eugene Wahl, Christian Schoelzel, John Williams, Seyitriza Tigrek

**Comment** Richard L. Smith

**Rejoinder** Bo Li, Douglas W. Nychka, Caspar M. Ammann

### Casual Effects of Treatments for Informative Missing Data due to Progression/Death

Keunbaik Lee, Michael J. Daniels, Daniel J. Sargent

### Prediction of Functional Status for the Elderly Based on a New Ordinal Regression Model

Hvokyoung Grace Hong, Xuming He

#### Informative Retesting

Christopher R. Bilder, Joshua M. Tebbs, Peng Chen

### Bayesian Modeling of MPSS Data: Gene Expression Analysis of Bovine Salmonella Infection

Soma S. Dhavala, Sujay Datta, Bani K. Mallick, Raymond J. Carroll, Sangeeta Khare, Sara D. Lawhon, L.G. Adams

### Optimal Partitioning for Linear Mixed Effects Models: Applications to Identifying Placebo Response

Thaddeus Tarpey, Eva Petkova, Yimeng Lu, Usha Govindarajulu

#### An Ensemble Kalman Filter and Smoother for Satellite Data Assimilation

Jonathan R. Stroud, Michael L. Stein, Barry M. Lesht, David J. Schwab, Dimitry Beletsky

### Analysis of Variance and F-Tests for Partial Linear Models with Applications to Environmental Health Data

Li-Shan Huang, Philip W. Davidson

Sensitivity Analysis for the Cross-Match Test, with Applications in Genomics Ruth Heller, Shane T. Jensen, Paul R. Rosenbaum, Dylan S. Small

#### Exploiting Regional Treatment Intensity for the Evaluation of Labor Market Policies

Markus Frolich, Michael Lechner

#### A Statistical Approach to Thermal Management of Data Centers Under Steady State and System Ben Haaland, Wanli Min, Peter Z.G. Qian, Yasuo Amemiya

#### Theory and Methods:

#### **Correlated z-Values and the Accuracy of Large-Scale Statistical Estimates** Bradley Efron

**Comment** T. Tony Cai

**Comment** Ruth Heller

**Comment** Armin Schwartzman

#### Comment

Peter H. Westfall

#### **Rejoinder** Bradley Efron

**Robust Data-Driven Inference for Density-Weighted Average Derivatives** Matias D. Cattaneo, Richard K. Crump, Michael Jansson

#### **Testing the Order of a Finite Mixture** Pengfei Li, Jiahua Chen

#### A New Approach to Optimal Design for Linear Models with Correlated Observations Anatoly Zhigliavsky, Holger Dette, Andrey Pepelyshev

Least Absolute Relative Error Estimation Kani Chen, Shaojun Guo, Yuanyuan Lin, Zhiliang Ying

**Tests for Error Correlation in the Functional Linear Model** Robertas Gabrys, Lajos Horvath, Piotr Kokoszka

**Goodness of Fit for Generalized Linear Latent Variables Models** David Cone, Elvezio Ronchetti, Maria-Pia Victoria-Feser

### Nonparametric Regression with Missing Outcomes Using Weighted Kernal Estimating Equation

Lu Wang, Andrea Rotnitzky, Xihong Lin

Nested Lattice Sampling: A New Sampling Scheme Derived by Randomizing Nested Orthogonal Arrays Peter Z.G. Qian, Mingyao Ai

Optimal Sparse Segment Identification with Application in Copy Number Variation Analysis

X. Jessie Jeng, T. Tony Cai, Hongzhe Li

Matern Cross-Covariance Functions for Multivariate Random Fields Tilmann Gneiting, William Kleiber, Martin Schlather

Approximate Bayesian Computation: A Nonparametric Perspective Michael G.B. Blum

**Groupwise Dimension Reduction** Lexin Li, Bing Li, Li-Xing Zhu

**Bayesian Variable Selection in Structured High-Dimensional Covariate Spaces with Applications** Fan Li, Nancy R. Zhang

**False Discovery Rate Control with Groups** James X. Hu, Hongyu Zhao, Harrison H. Zhou

**Testing for Change Points in Time Series** Xiaofeng Shao, Xianyang Zhang

**Spectral Connectivity Analysis** Ann B. Lee, Larry Wasserman

**Functional Varying Coefficient Models for Longitudinal Data** Damla Senturk, Hans-Georg Muller

**Using Calibration Weighting to Adjust for Nonignorable Unit Nonresponse** Phillip S. Kott, Ted Chang

#### **Book Reviews**







We are very pleased to welcome the following new members:

Country AUSTRALIA BOTSWANA BURKINA FASO CROATIA EGYPT USA USA LUXEMBOURG MALI

Surname Linacre Motsemme Some Gavric Maguad McCarthy Messer Schockmel Gakou First Name Tegan Letsema G. Sankar Placide Mario Osman Jaki S. Chris Marco Assa

### **IASS Officers and Council Members**

Executive Officers President (2009-		
2011):	Susan Linacre (Australia)	susan.linacre@abs.gov.au
President-elect:	Ray Chambers (Australia)	ray.chambers@internode.on.net
Vice-Presidents		
(2009-2011):	Peter Lynn (UK)	plynn@essex.ac.uk
	Linda Hewitt (Republic of	
	Trinidad and Tobago)	linhew@trinidad.net
Scientific Secretary		
(2007-2009):	Leyla Mohadjer (USA)	leylamohadjer@westat.com
Council Members		
serving 2009-2013	Mike Hidiroglou (Canada)	mike.hidiroglou@statcan.gc.ca
	Edith D. de Leeuw (The	
	Netherlands)	<u>edithl@xs4all.nl</u>
	Monica Pratesi (Italy)	<u>m.pratesi@ec.unipi.it</u>
	Mick P. Couper (USA)	<u>mcouper@umich.edu</u>
	Eva Elvers (Sweden)	eva.elvers@scb.se
	Yves Tille (Belgium)	<u>yves.tille@unine.ch</u>
Members serving		
2007-2011	Jairo Arrow (South Africa)	jairo@statssa.gov.za
	Louise Bourque (Canada)	louise.bourque@stat.gouv.qc.ca
	Kathryn Inglis-Clark	
	(Australia)	kate@inglis-clark.com.au
	Dalisay Maligalig	
	(Philippines)	dmaligalig@abd.org
	Paul-Andre Salamin	
	(Switzenand)	paulandre.salamin@bfs.admin.ch
	(Nepel)	
Committee Chairs	(Nepai)	s.upadnyaya@unido.org
2011 Programmo		
Committee <sup>.</sup>	Geoffrey Lee (Australia)	gooff loo@abs.gov.au
The Secretariat	Geolitey Lee (Australia)	geon.iee@abs.gov.au
Executive Director:	Catherine Meunier	
	(France)	catherine meunier@insee fr
Treasurer:	Daniel Malaguin (France)	daniel malaquin@insee fr
Secretary:	Évelyne Coutant (France)	evelyne coutant @insee fr
ooolotaly.		everyne.coutant embee.n



#### **Institutional Members**



#### **4 International Organizations**

AFRISTAT CICRED EUROSTAT UNITED NATIONS STATISTICAL DIVISION

#### **31 Bureaus of Statistics**

**ARGENTINA - INSTITUTO NACIONAL DE ESTADISTICA Y CENSOS - INDEC AUSTRALIA - AUSTRALIAN BUREAU OF STATISTICS BELGIUM - INSTITUT NATIONAL DE STATISTIQUE** BRAZIL - INSTITUTO BRASILEIRO DE GEOGRAFIA E ESTATISTICA - IBGE **CANADA - STATISTICS CANADA** CHINA - GOVERNO DE MACAU **COTE D'IVOIRE - INSTITUT NATIONAL DE LA STATISTIQUE CZECH REPUBLIC - CZECH STATISTICAL OFFICE DENMARK - DANMARKS STATISTIK FINLAND - STATISTICS FINLAND** FRANCE - INSTITUT NATIONAL DE STATISTIQUE ET D'ÉTUDES ÉCONOMIQUES - INSEE **GAMBIA - CENTRAL STATISTICS DEPARTMENT GERMANY - STATISTICHE BUNDESAMT GREECE - NATIONAL STATISTICAL SERVICE OF GREECE IRAN - STATISTICAL CENTER OF IRAN ITALY - INSTITUTO CENTRALE DI STATISTICA - ISTAT** MEXICO - INSTITUTO NACIONAL DE ESTADISTICA, GEOGRAFIA E INFORMATICA - INEGI **NETHERLANDS - CENTRAL BUREAU OF STATISTICS NEW ZEALAND - STATISTICS NEW ZEALAND NIGERIA - FEDERAL OFFICE OF STATISTICS NORWAY - CENTRAL BUREAU OF STATISTICS** PORTUGAL - INSTITUTO NACIONAL DE ESTATISTICA - INE **REPUBLIC OF KOREA - NATIONAL STATISTICAL OFFICE - NSO SPAIN - INSTITUTO NACIONAL DE ESTADISTICA SWEDEN - STATISTICS SWEDEN** SWITZERLAND - OFFICE FEDERAL DE STATISTIQUE **TANZANIA - BUREAU OF STATISTICS UNITED KINGDOM - OFFICE FOR NATIONAL STATISTICS USA - BUREAU OF THE CENSUS USA** - DEPARTMENT OF EDUCATION **USA - DEPARTMENT OF HEALTH AND HUMAN SERVICES** 

#### 6 Universities, Research Centers, Private Statistics Firms

ARGENTINA - UNIVERSITAD NACIONAL DE TRES DE FEBRERO DENMARK - SFI EUROPE - A.C. NIELSEN MANAGEMENT SERVICE FRANCE - INSTITUT NATIONAL D'ÉTUDES DEMOGRAPHIQUES - INED USA - RESEARCH TRIANGLE INSTITUTE USA - WESTAT

#### INTERNATIONAL ASSOCIATION OF SURVEY STATISTICIANS

#### CHANGE OF ADDRESS FORM



If your home or business address has changed, please copy, complete, and mail this form to:

IASS Secretariat c/o INSEE-CEFIL Att. Madame Évelyne Coutant 3, rue de la Cité 33500 Libourne – France

Name: Mr./Mrs./Miss/Ms.	First name:
E-mail address (please just indicate one):	
May we list your e-mail address on the IASS web site? Yes No	
Home address	
Street:	
City:	
State/Province:	Zip/Postal code:
Country:	
Telephone number:	
Fax number:	
Business address	
Company:	
Street:	
City:	
State/Province:	Zip/Postal code:
Country:	
Telephone number and extension:	
Fax number:	
Please specify address to which your IASS correspondence sho Home Business	ould be sent:

# Read *The Survey Statistician* online!



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