

Discussion Corner

Editor's Note: *The following is an article from Anders Christianson, Vice President of the IASS, about imputation. Two discussants have provided their points of view on this topic. We encourage other members to get involved in this discussion. Send a brief description of your approach in dealing with nonresponse and imputation. We like to know how different organizations in countries around the world deal with the challenges that nonresponse imposes on surveys.*

Avoid the Need to Impute! by Anders Christianson

Those were the words by which Éric Rancourt finalized his excellent presentation "Edit and Imputation: From Suspicious to Scientific Techniques" during the session *IPM 76: Edit and Imputation Techniques*, organized by John Kovar at the Seoul meeting in August 2001. This was one of the best sessions that I attended during the whole ISI meeting, with excellent presentations also by Antonia Manzari and Ray Chambers, and a refreshing discussion introduced by the invited discussant, Graham Kalton.

During the floor discussion, Paul Biemer posed the question, "Isn't there a limit for the degree to which we are prepared to impute?" Paul meant, obviously, that somewhere there is a limit for the nonresponse rate, beyond which we should not publish the results of a survey at all, in order not to mislead users. Graham responded to this, that we should do the best possible with the data available, and referred to an analysis made by Wayne Fuller on a data set with high nonresponse rates.

With due respect to Graham and Wayne, who have both done so much good for survey methodology, I cannot fully agree with this statement, even though I do not remember the actual nonresponse rates. I think that we should be a little more hard-headed on this issue. Generally speaking, there must be a limit beyond which we no longer can consider the remaining sample after nonresponse as a probability sample. Discarding the data set may then be the best possible action we can take, better than basing our inference on very heavy assumptions about the mechanisms that generated the unit and item nonresponse.

However, there seems to be a reluctance around the world today to impose minimum performance standards, such as those presented in Hansen et al. (1967). Committing oneself not to publish survey results when they do not meet the minimum performance standard seems to be a disgusting

thought. Nevertheless, such a practice may have its virtues.

For the Swedish television audience surveys (I worked on them for 17 years), we introduced minimum performance standards in 1973 (see Christianson, 1991). Daily tables and diagrams were not to be published if the nonresponse rate exceeded 17 percent; if it exceeded 15 but not 17 percent, only totals were published, not domain estimates. There were two important advantages associated with this strategy. First, it guaranteed a certain minimum quality of survey results. It should have decreased the number of wrong decisions made due to poor survey quality. Second, the minimum performance standards gave the telephone interviewers the message that we were serious when we talked about nonresponse as a problem. The standard was used to stop publication of daily tables and diagrams only twice during the period 1973-85. The damage was thus relatively small, and I am convinced (without being able to prove this statement) that the standard was helpful in keeping nonresponse rates at an acceptable level.

In my opinion, keeping nonresponse rates down is the best way to avoid imputation, so I am supporting Éric Rancourt. There is a risk that less knowledgeable survey staff, imagining that imputation, modelling, nonresponse adjustment, or whatever you call it, "solves" the nonresponse problem, will not expend enough effort to keep the nonresponse rates down. In my opinion, the main borderline exists not between good and bad guesses, but between guesses and observations.

I am aware, however, that there are different opinions about this, and I encourage other members to express their views. Let us have a refreshing discussion on this topic!

References

Christianson, A. (1991). *Nonresponse Research Within the Swedish TV Audience Surveys 1969/1985*. Presented at the Second Workshop

on Nonresponse and Survey Participation, Washington, DC.

Hansen, M.H., Hurwitz, W.N., and Pritzker, L. (1967). *Measurement Errors and Statistical Standards in the Bureau of the Census*. Presented at the 36th Session of the International Statistical Institute, Sydney, Australia. 2002 Census in Chad.



Comments by Graham Kalton

I think that Anders has raised a good topic for discussion in *The Survey Statistician*. I should like to broaden it to the following question: Should survey estimates that fall below an "acceptable" level of accuracy be suppressed? Anders focuses on high nonresponse rates as an indicator of accuracy, whereas I am extending the issue to all dimensions of accuracy. There are clearly differences in views and practices as to whether estimates of low accuracy should be suppressed, differences that I suspect are related to the different circumstances and types of surveys involved. For this reason I do not think there is a simple universal answer to the question. In general I am opposed to suppression, but there are circumstances where it can be justified.

In essence, my argument is that estimates of any quality add to the information available to users. Rather than protecting users from themselves by suppressing estimates that producers judge to be of inadequate quality, I believe that producers should provide users with the estimates together with the information that is needed for users to assess the accuracy for themselves. It is for the users to decide whether the estimates are fit for use for their particular purpose. In doing so, users should of course consider alternative sources of information that may contribute to meeting their needs, and make use of the current estimates in the light of that information. If good alternative data are available, a user may choose to ignore the current inaccurate estimates, suppressing them for him- or herself. However, if there are no other reasonably closely related alternative data available, then the user may prefer to rely on the inaccurate estimates, rather than operating without statistical data. Users who need to make policy decisions or allocate funds based on statistical evidence must take some action. Even though the

estimates may be highly inaccurate, they may nevertheless provide the best information available (see the example in Kalton, 2001).

My argument relies, of course, on users being able to make informed judgements. There are two aspects to this. First, users need to have access to the information necessary to assess the accuracy of estimates. Producers need to provide that information to users, after carrying out whatever studies are needed to compile the information. Second, users need to have the skills necessary to make an informed judgement. The case is often made that users lack those skills and will misuse the estimates if they are not suppressed. I acknowledge that this may often be the case, but I think that the solution lies in extensive efforts to educate users to understand measures of accuracy and to be concerned about them.

One widely used form of suppression is to suppress estimates with coefficients of variation (CVs) of greater than, say, 30 percent. Here, the level of inaccuracy (i.e., the standard error) can be measured and presented straightforwardly to the user. Thus, the case for suppression appears to be the concern that users will ignore the standard error. They need to be educated not to do so.

The situation with high total or item nonresponse rates is different in that these rates serve only as indicators of a potential for inaccuracy (i.e., nonresponse bias), but no direct measure of inaccuracy can be provided. Furthermore, attempts can be made to reduce nonresponse bias by means of weighting adjustments for total nonresponse and imputation for item nonresponse. The effectiveness of these compensation procedures cannot be assessed. My general view in this situation is that the survey data (in the case of a high total nonresponse rate) or a particular item (in the case of a high overall item nonresponse rate) should not be suppressed, but that users be given clear warnings about the risk of bias in the survey estimates.

To the extent that nonresponse bias studies can be conducted, they should be, and the results presented to users. Also, I argue that considerable efforts should be made to compensate as effectively as possible for high levels of missing data, either in weighting adjustments or through imputation. It was in this context that I referred in the ISI session to the paper by Wayne Fuller, Marie Loughlin and Harold Baker (1994), in which the authors applied extensive regression weighting adjustments to try to compensate for potential

nonresponse bias in a survey that achieved a response rate of only 37 percent.

Another issue with suppression in the case of nonresponse is determining the threshold for the response rate below which the survey data are to be suppressed. Anders reports that the threshold was set at 83 percent in the minimum performance standards established for the Swedish TV surveys in 1973. If that threshold were applied now, the data from most surveys in most countries would be suppressed! How should the threshold be set in a meaningful way? I do not know how to answer that question. Furthermore, I think that the likely effectiveness of the nonresponse compensation procedures needs to be factored into a decision about suppression. In the case of item nonresponse, for example, if highly predictive auxiliary variables are used in imputing for an item with a high nonresponse rate, then the case for suppression is much reduced.

Having given my arguments against suppression on the grounds of high nonresponse, let me consider those for suppression. Anders suggests that one is that the threat of suppression makes the data collectors aware of the importance of high response rates, and hence keeps them on their toes. I can see that suppression may be effective for this purpose in surveys repeated at short intervals, but this would not seem to readily generalize. Also, I feel that there should be other methods for achieving this objective that do not involve jettisoning data.

A second argument for suppression relates mainly to surveys conducted by national statistical offices (NSOs). The concern here is that an NSO should not provide estimates of low accuracy because such estimates will tarnish the reputation of all the estimates the NSO provides. Given the great importance of maintaining the credibility of the information that an NSO provides (see Fellegi, 2001), this is an important point. However, note that it rests on an assumption that users fail to distinguish between estimates of low and high accuracy. If they were educated to do so, that should overcome this concern. Many users may not be able to make the distinction at this time, but the aim for the future should be to educate them to do so.

I should note that the above comments relate to suppression of estimates of low accuracy only. Suppression is also used to avoid data disclosure. That is a separate topic.

Finally, I should like to add my support to the position taken by Anders and Eric Rancourt that the best solution to missing data is to avoid the problem. The naïve view that nonresponse weighting adjustments and imputation, however well performed, can remedy the problem is fallacious and needs to be firmly refuted. In general, we should strive for accuracy along all dimensions. In addition, we should devote resources to measuring accuracy and to reporting it fully to users. Then we need to work towards educating users to understand and to take account of the accuracy measures we provide. If users fully absorb the importance of accuracy, they will also appreciate the value of designing high-quality surveys and will accept the often increased costs needed to produce a quality product.

References

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- Fuller, W.A., Loughlin, M.M. and Baker, H.D. (1994). Regression Weighting in the Presence of Nonresponse with Application to the 1987-1988 Nationwide Food Consumption Survey, *Survey Methodology*, 20, 75-85.
- Kalton, G. (2001). How Important is Accuracy? *Proceedings of Statistics Canada Symposium 2001, Achieving Data Quality in a Statistical Agency: a Methodological Perspective*.



Comments

by Marilyn McMillan

I must start off by saying that there is truth on both sides of this debate. Perhaps the answer rests in the intended use of the data. Certainly in the case of "official statistics" issued by government agencies, it is desirable, if not imperative, to have response rates that are as high as possible. After all, if data are to be presented to the public and policymakers as official data to serve as a basis for both personal and policy decisions, they must be of the highest quality possible.

On the other hand, if the data are to be used in a more analytic, exploratory manner, there are likely to be cases where the cost and level of effort required to attain even a low response rate yield data that otherwise might not be available. Take, for example, a health survey that asks respondents not only to complete a questionnaire, but also to submit to a physical examination and medical tests;

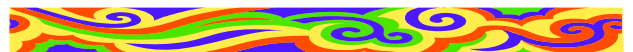
the more complicated and invasive the test, the lower the response rate is likely to be. If the end result is a data set with blood sugar levels or cholesterol levels for thousands of people who account for only 50 to 60 percent of the sampled cases, should these data be discarded, or should all the information possible be extracted from these data, within the limitations imposed by probable nonresponse bias? I must vote for proceeding with the latter approach, with caution and appropriate caveats.

That said, given the importance of “official statistics” in modern life, I would like to focus primarily on the importance and significance of attaining high response rates. Why? Because even the best weighting adjustments or imputation procedures are limited by the distributions of the reported or known variables that are used in these methods. If additional covariates are related to the missing data in question but are not used in these methods, the weighting adjustments and imputation procedures may not accurately reflect the “true” distribution of the missing data.

Several things can be done to increase the likelihood of attaining high response rates. This effort begins at the survey design phase, where it is important to design data collections with the goal of reaching target response rates that are at least consistent with historical response rates from similar surveys that were conducted with best practices. Because many studies differ in the number of stages required to complete a data collection, at the design phase it is perhaps best to think about survey response rates at the unit level. This allows the opportunity to take into account anticipated differences in response rates for different stages. For example, in the case of the first-stage school response rates of longitudinal surveys, in which serious time investments are requested, target response rates of 70 percent are realistic; but target response rates for subsequent stages and for longitudinal followups should be at least 90 percent. However, in the case of a cross-sectional sample survey of schools, administrators, and/or teachers, target unit response rates of 90 percent at each stage are desirable. Target item response rates must also be planned in the design stage; here, target rates of at least 85 percent are reasonable.

It is also important to identify and incorporate data collection procedures that encourage high response rates. This includes, for example, choosing a data collection mode that is appropriate for the target population and the objective of the data collection, clearly describing to respondents the purpose of the data collection, providing assurances of confidentiality to respondents, making efforts to minimize respondent burden, monitoring response rates during data collection, and implementing nonresponse followup strategies that are appropriate for the type of data collection and the level of nonresponse.

This brings me to Paul Biemer’s question. Having done everything possible to ensure high response rates during the design and data collection phases, the survey manager sometimes must face the question of how much missing data is too much. The first step in answering this question is a nonresponse bias analysis to quantify any potential nonresponse bias that might be present. Here, it is important to keep two things in mind. First, the amount of bias measured, particularly in the case of unit nonresponse, is tied to the variables available for the analysis. Thus, if the distribution of the missing cases on some untested dimension is not strongly correlated with the distribution of one of the variables used in the analysis, the bias for that dimension could be higher or lower than the measured nonresponse bias. Second, the level of effort that goes into a nonresponse bias analysis should be a function of the amount of nonresponse. For example, in the extreme, a initial response rate in the initial stage of a longitudinal survey of schools and students might call for the administration of a separate short survey to nonresponding schools. This would provide the basis for a more extensive bias analysis than would be possible with a less extensive analysis based on a comparison of the distribution of respondent characteristics with the distribution of those same characteristics on the sampling frame. The second step in answering this question involves a consideration of the results of the bias analysis, the prospective uses of the data, and the importance or significance of the data.





We are very pleased to welcome the following new members.

Armenia

ARAIK HAYRAPETYAN

Bangladesh

SADANANDA MITRA

Benin

MOUSTAPHA D. MOUSSILIOU

Cameroon

DANIEL NGUEYAP

Canada

ERIC RANCOURT

China

LAI HING JOANNE KOT

TERESA NG

Ecuador

CLANCA MARINA ALMACHI CASAMEN

Estonia

KRISTINA RAJALEID

Fiji

LANIETA VAKADEAWABUKA

France

ZAKIA BELMOKHTAR

CHRISTIANA FIORI

ROBERT USUBI-KIWUTSI

KOFFI JEAN MARIE YAO

Germany

RALF MUNNICH

India

ASWINI KUMAR NANDA

Indonesia

JOHANES PURWANTO

Israel

RONIT NIREL

Korean Republic

YUNKEE AHN

BYONG-O CHOI

MOON SEONG CHOI

MIOK JEUNG

RAN JO

DAE-HO KIM

NAM HEE KIM

SEUNG-TEAK KIM

SOONYOUNG KIM

YOUNG-WON KIM

JINAE LEE

JUWON LEE

KYUNGEUM LIM

HYE JUNG MOON

SOOKYUNG PARK

JUNGYEON YI

Malaysia

MOHAMAD AZIZ

Mauritius

NATHALIE JOB

MOHAMED MOURATSING

ANJALI NARRAINEN

VYDELINGUM

Morocco

MOHAMED MAHMOUDI

Nepal

RABI SINGH

Netherlands

GERTY LENSUET-MULDERS

New Zealand

MITTINTY N. MURTHY

SOON SONG

Norway

KARI RUSDEN

GURI TYLDUM

Papua New Guinea

WILLIE LAHARI

Phillipines

SOROCCO D. ABEJO

MARISSA BARCENAS

ROSALINA BAUTISTA

PAULA MONINA COLLADO

ESTELITA MARQUES

GINA A. PERIDO

Spain

ROBERTO ESCUDER

Sudan

HAMJA ABDALLA SIROR

Sweden

MARTIN KARLBERG

Switzerland

SIXTEN LUNDSTROM

Tanzania

DONATA TENESI MWITA

Uganda

ALFRED LABU KURONG

United States of America

BOGONG LI

SHARON LOHR

ERNESTO SANTOS

DAVID SWANSON

MICHAEL WITT

YACUB ZEWOLDI

Uruguay

ROY CARTER

West Indies

LEAH SAHELRY

Zambia

SHEILA SHIMWANBWA MUDENDA

Zimbabwe

REGGIES MAMINA



Announcements

IASS Programme for the 54th ISI Session, Berlin 2003

By Danny Pfeffermann, Chair of IASS Programme Committee

As with previous ISI meetings, we started planning the programme for Berlin four years in advance, soon after the Helsinki meeting in 1999. The first step was to establish a programme committee, which consisted this time of 29 members from virtually all over the world, representing a wide range of statistical organizations and academic departments. Members of the committee proposed well over 100 topics, covering basically every aspect of our profession. These topics provided the basis for the formation—and, later on, the ranking—of the invited paper meetings.

During the Seoul meetings, I met with representatives of other ISI sections and committees to explore the possibilities of organizing joint invited paper meetings. I also assembled the members of our programme committee who were present in Seoul to discuss the progress made with our programme and other related issues. The net result of our joint efforts is that in Berlin the IASS will be involved in the organization of 13 invited paper meetings, the same number we had in Seoul. The IASS will be the sole organizer of nine meetings and the principal (responsible) organizer of two joint meetings, with the other participating parties being the IAOS and the Committee on Professional Ethics. The two remaining joint meetings will be the responsibility of the IAOS and the ISI Committee for the Promotion of Statistics in the Life Sciences, although two of our members will be assisting in the organization of these meetings.

The complete list of invited paper meetings sponsored by the IASS and the names of the respective organizers are shown below. As I hope the list indicates, we were successful in having a good balance of organizers in terms of geography and type of affiliation.

While in Seoul, I made a strong case for the IASS to organize the tutorial session in Berlin. As I learned this week, our efforts have been fruitful and the IASS will indeed present the tutorial (or one of two tutorials) to be given in Berlin. I believe that this will give us a unique opportunity to expose our work to statisticians from other disciplines, and we will make every effort to do this in the best possible

way. The topic I proposed for the tutorial (after consultations with members of our programme committee who were present in Seoul) is, "Statistical Analysis from Complex Survey Data, with Application to the Social, Biological, and Health Sciences." An abstract that I wrote when proposing the tutorial to the ISI Programme Committee is provided below. I am open to suggestions on content, presenters, and mode of presentation.

I take this opportunity to thank all the members of our programme committee for their wonderful help and dedication. I would also like to thank David Binder, who chaired the Seoul Programme Committee, for his assistance and good advice. The IASS Programme Chair for the 2005 meetings in Sydney is Pedro Silva from the IGBS, who was a member of the last two programme committees. We all wish him big success in this job.

Invited Paper Meetings Sponsored by IASS

A. IASS as sole organizer

1. IASS as sole organizer
2. New challenges with future tele-surveys.
Organizer: *Ozta Ayhan* (Turkey)
3. Data fusion, imputation, and nonresponse.
Organizer: *Seppo Laaksonen* (Finland)
4. Surveys in transition and developing countries. Organizer: *Nanjamma Chinappa* (India)
5. Measuring survey quality. Organizer: *Peter Lynn* (United Kingdom)
6. Estimation and analysis from complex surveys using auxiliary information.
Organizer: *Jelke Bethlehem* (Netherlands)
7. Design and analysis of evaluation studies.
Organizer: *Dan Kasprzyk* (U.S.A.)
8. Small area design and estimation.
Organizer: *Jan Kordos* (Poland)
9. Surveys of special populations. Organizer: *Malati Pochun* (Mauritius)
10. Multinational surveys. Organizer: *Peter Wingfield Digby* (Thailand)

B. Joint meetings with IAOS

1. New approaches to population censuses; a meeting in memory of Leslie Kish. *Under the responsibility of IASS*, Organizer: *T M.F. Smith* (United Kingdom)
2. Use of administrative data for business statistics. *Under the responsibility of IAOS*,

Organizer: *Geoff Lee* (Australia). *Mike Hidiroglou* (Canada) from IASS will assist in the organization of this session.

C. Joint meeting with ISI Committee on Professional Ethics

- Ethical issues in surveys and how they affect our society. *Under the Responsibility of IASS*, Organizer: *T M.F. Smith* (United Kingdom)

D. Joint meeting with ISI Committee for the Promotion of Statistics in the Life Sciences

- Emerging methods in longitudinal data analysis. *Under the responsibility of the ISI committee*, Organizer: *Marie Davidian* (U.S.A.). *Gad Nathan* (Israel) from IASS will assist in the organization of this session.

Proposal for the Tutorial Meeting in Berlin

Statistical Analysis from Complex Survey Data, with Application to the Social, Biological, and Health Sciences.

Abstract

Until about two decades ago, the use of complex survey data was mostly for descriptive purposes such as the estimation of means or proportions. The methods used were almost purely “design based,” employing sample selection probabilities, and hence were considered as being outside “mainstream statistics.”

The last two decades saw a big change in the work of survey statisticians. On the one hand, there has been an increasing emphasis on all kinds of data analysis and inference. On the other hand, new methods have been developed that modify and extend existing methods in “general statistics” so as to account for the special features and complexities of survey data.

The purpose of this tutorial is to highlight the new advancements in statistical modeling and analysis of complex survey data, with special emphasis on new inference opportunities that they open in the social, biological, and health sciences.

Possible applications for illustration include:

- ◆ Structural Modeling of Time Series Data;
- ◆ Mixed Linear and Nonlinear Models (Random Effects Models);
- ◆ Survival Analysis;
- ◆ Contingency Table Analysis; and
- ◆ Latent Variables Models.

IASS Short Courses at the 54th ISI Session, Berlin 2003

**By Seppo Laaksonen,
Scientific Secretary of IASS**

The list of short courses includes the following:

- ◆ Workshop on Survey Sampling—*Graham Kalton*, *Colm O’Muircheartaigh*, 2½ days;
- ◆ Variance Estimation in Complex Surveys—*Wayne Fuller*, *Kirk Wolter*, 2 days;
- ◆ Small Area Estimation—*J. N.K. Rao*, 1½ days;
- ◆ Editing and Imputation of Survey Data—*John Kovar*, *Eric Rancourt*, 1½ days;
- ◆ Business Survey Methods—*David Binder*, *Mike Hidiroglou*, 2 days; and
- ◆ Designing Surveys—*Edith de Leeuw*, *Don A. Dillman*, 2 days.
 - Introduction to Questionnaire Design; and
 - Mail and Internet Surveys.

The final list may be changed. The list of courses and the names of the course leaders will again be available in the next IASS newsletter and also on the IASS website. As in previous years, support for students from developing and transition countries will be attempted. The courses will be arranged just before the ISI session, that is, August 10-13. The location is under discussion with our German organizers. It will be possible to choose one to three courses per person, and the participation fee will be reasonable. The lecturers are the highest level experts on each topic. The Scientific Secretary of the IASS, *Dr. Seppo Laaksonen*, welcomes statisticians and survey researchers from all countries to participate in these courses. For further questions and comments, please contact: Seppo.Laaksonen@Stat.Fi.



Cochran-Hansen Prize 2003: Competition for Young Survey Statisticians from Developing and Transition Countries

In celebration of its 25th anniversary, the IASS established the Cochran-Hansen Prize to be awarded to the best paper on survey research methods submitted by a young statistician from a Developing or Transition Country.

The next paper will be presented at the 54th Session of the International Statistical Institute, to be held in Berlin, Germany from August 13-20, 2003.

Participation in the competition for the Cochran-Hansen Prize is open to nationals of Developing or Transition Countries who are living in such countries and who were born in 1963 or later. Winners of an ISI Jan Tinbergen Award are not eligible for the competition.

Papers submitted must be unpublished original works. They may include materials from the participant's university thesis. They should be in either English or French. The papers should be submitted to the IASS Secretariat at the address below, to arrive by December 31, 2002. Each submission should be accompanied by a cover letter that gives the participant's year of birth, nationality, and country of residence.

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

The author of the winning paper will receive the Cochran-Hansen Prize in the form of books and journal subscriptions to the value of about 500 EUROS and will be invited to present the paper at the Berlin Session of the ISI with all expenses paid (i.e., round trip airfare between place of residence and Berlin and a lump sum to cover living expenses).

For further information, please write to:

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



Future Meeting Announcements

- ◆ The International Conference on Improving Surveys (ICIS 2002), Copenhagen, 25-28 August 2002 (www.icis.dk).
- ◆ The Third Francophone Seminar on Sampling, Grenoble, 17-18 October 2002 (<http://sondages2002.upmf-grenoble.fr>).
- ◆ The International Conference on Questionnaire Development, Evaluation and Testing (QDET), Charleston, 14-17 November 2002 (www.jpsm.umd.edu/qdet).
- ◆ The first Baltic-Nordic Conference on Survey Sampling will be held August 17-23, 2002 in the beautiful mountain village Ammarnäs in Lapland, Sweden. It is organized by the Survey Section of the Swedish Statistical Association together with the Finnish and Baltic Networks on Survey Sampling. Participation is open to statisticians from all countries, and the working language is English. The program will cover survey sampling in a wide sense. The main speakers Danny Pfeffermann, Jon N. K. Rao and Carl-Erik Särndal will give series of lectures, and nine additional speakers from Baltic and Nordic countries will give invited lectures. All participants are invited to present a contributed paper. The deadline for abstract submission is May 15. Gunnar Kulldorff is Chair of the Organizing Committee and the Scientific Program Committee. More information can be found on the web site: www.matstat.umu.se/banocoss.
- ◆ Islamic Society of Statistical Sciences (ISOSS) is holding the Eighth Islamic Countries Conference on Statistical Sciences (ICCS-VIII) at The University of Bahrain on December 21-24, 2002. Interested persons are requested to present technical paper and also participate in the Conference discussions and deliberations. For additional information please contact Dr. A. M. Chaudry (akrammoh@internic.uob.bh) or Prof. Akhlaq Ahmad (drmunir@brain.net.pk).





XIX International Methodology Symposium Modelling Survey Data for Social and Economic Research

Organised by Statistics Canada

**Fairmont Chateau Laurier
November 6 to 8, 2002
Ottawa, Canada**

Background:

The Statistics Canada Methodology Symposium series started in 1984 as an international event addressing issues of statistical methodology that are relevant to the work of a government statistical agency aiming at exposure to a broader statistical community including universities, industry, and other government organisations.

This year, we plan to bring together statistical methodologists and analysts working in a variety of domains where survey data are used for analysis and inference. The subject areas of interest include national statistical accounts, public health, education, environmental protection, evaluation of social programs, transportation, travel and leisure, income and wealth distribution, labour dynamics, and demography.

Topics:

Applications will include: casual modelling, modelling of transitions and duration data, structural data, structural equation modelling, multilevel modelling, event history analysis, cohort analysis, analysis of trends, etc. The emphasis will be on the use of survey data with complex structure (correlated, hierarchical, longitudinal, from multiple frames, etc), with an appropriate accounting for sampling design.

Invited and contributed papers will be presented and discussed over the two days of the conference, preceded by a day of workshops. Proceedings from the conference will be published and disseminated.

Further Information:

Visit our website at: <http://www.statcan.ca/english/services/smnrs.htm>

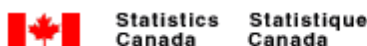
Or send us an email at: symposium2002@statcan.ca.

Or by regular mail to:

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Ottawa, ON K1A 0T6
Canada


Hope to see you in Ottawa!

Note that the beginning of November is still very pleasant in Ottawa: dry, sunny and mild.



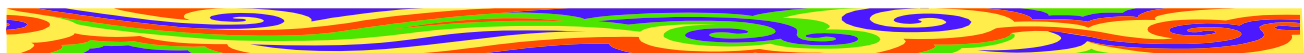
Visit the new and improved IASS web site and read *The Survey Statistician* on line!

www.isi-iass.org

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|  | <p>International Association of Survey Statisticians (IASS) The Premier World Organization representing who's who in Sample Survey and Census Methodologies</p> |
| <p>More about the IASS</p> <p>Becoming a member</p> <p>Services for members</p> <p>Survey Statistician</p> <p>Publications</p> <p>IASS Conferences</p> <p>Cochran-Hansen Prize</p> <p>Ask the experts</p> <p>Links</p> <p>What's new</p> | <p>FOUNDATION AND OBJECTIVES:</p> <p>Founded in 1973, the International Association of Survey Statisticians (IASS) has as its charge and mandate to promote the study and development of the theory and practice of sample surveys and censuses. It also aims to increase interest in surveys and censuses among statisticians, governments, and the public the world over.</p> <p>MEMBERSHIP AND EXECUTIVE:</p> <p>At present the IASS has approximately 1.200 members from 130 countries and 38 institutional members.</p> <p>IASS headquarters are situated in Libourne (FRANCE) and operate, to a large extent, under the auspices of the French statistical agency INSEE, which lends its expertise and status to aid and promote the association's work.</p> <p>The society is run by an Executive Committee, elected for a period of 2 year and a Council, elected for a four year period.</p> <p>Anyone interested in learning more about IASS should contact Christophe Lefranc IASS Executive Director INSEE 18, Bd. Adolphe Pinard 75675 PARIS, France e-mail: christophe.lefranc@insee.fr</p> |
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Important Notices

- ◆ Since a PDF file of the newsletter is available on the IASS web site, some members no longer wish to receive the hard copy, but would prefer simply to be notified of the posting of a new issue. Please send an e-mail to LeylaMohadjer@Westat.com if you would like to take advantage of this possibility.
- ◆ Members are encouraged to view the IASS website (www.isi-iass.org) and provide comments or suggestions to Fred_Vogel@nass.usda.gov.



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

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INTERNATIONAL ASSOCIATION OF SURVEY STATISTICIANS

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