

INTERNATIONAL ASSOCIATION  
OF SURVEY STATISTICIANS  
*International Statistical Institute*



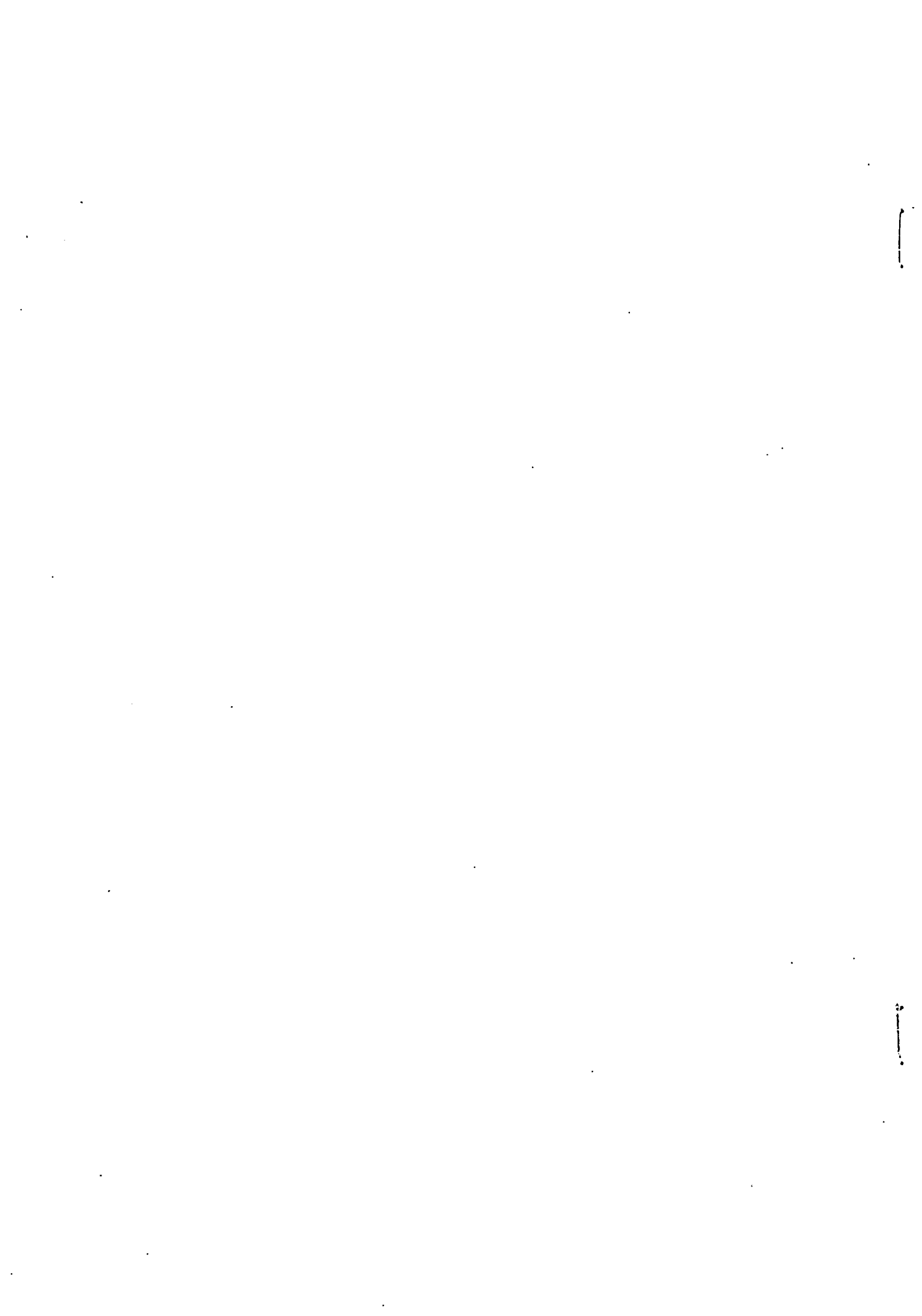
# *THE SURVEY STATISTICIAN*

INTERNATIONALE  
ASSOCIATION  
D'ENQUETES  
DES STATISTICIENS



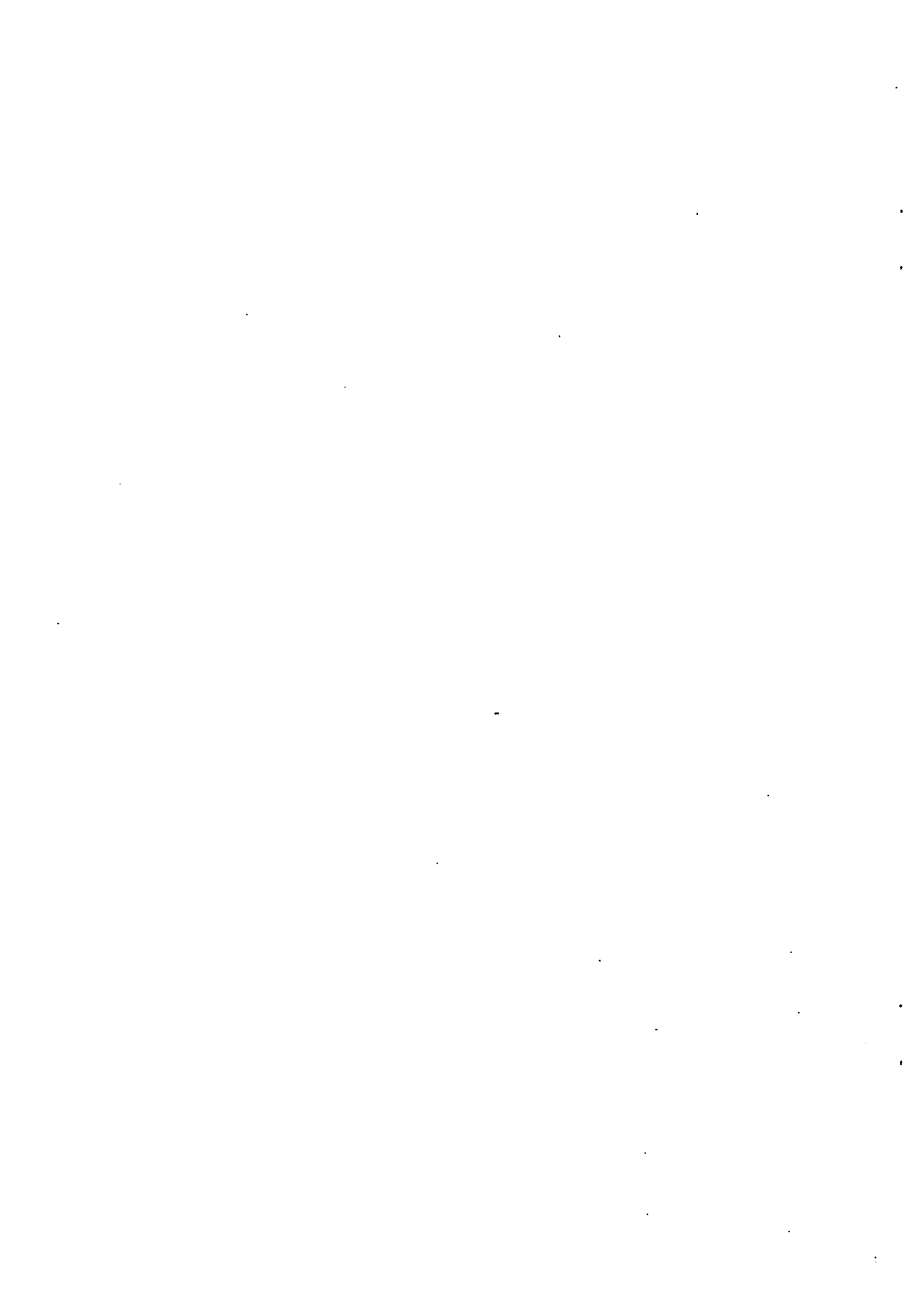
*L'Institut International de Statistique*

**No. 41  
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## Table of Contents

<b>Letter From the President .....</b>	<b>1</b>
<b>Report from the Executive Director – Benoît Riandey .....</b>	<b>3</b>
<b>IASS Program Committee Report – Susan Linacre .....</b>	<b>8</b>
<b>Small Area Statistics Conference – Dennis Trewin.....</b>	<b>8</b>
 <b>Software Review</b>	
<b>"SAS Procedures for Analysis of Sample Survey Data" –     Anthony An, Donna Watts, and Maura Stokes .....</b>	<b>10</b>
 <b>Question/Answer .....</b>	 <b>14</b>
 <b>Country Reports.....</b>	 <b>16</b>
 <b>Announcements</b>	
<b>The Second International Conference on Establishment Surveys .....</b>	<b>24</b>
<b>Workshop on Labor Force Surveys.....</b>	<b>24</b>
<b>Conference on Sampling .....</b>	<b>25</b>
<b>Short Courses.....</b>	<b>26</b>
<b>The Survey Statistician Contact Information .....</b>	<b>26</b>
<b>New and Improved Survey Statistician.....</b>	<b>27</b>
 <b>In Other Journals</b>	
<b>Survey Methodology – A Journal Published by Statistics Canada .....</b>	<b>28</b>
<b>Journal of Official Statistics – An International Review Published by Statistics Sweden .....</b>	<b>28</b>
<b>Statistics in Transition – Journal of the Polish Statistical Association .....</b>	<b>30</b>



## Letter From the President

Dear IASS Members:

It was a great pleasure meeting and talking with many of you at the recent meetings in Helsinki. Most who attended the meetings will agree that the venue was superb, the organization and local arrangements were flawless, and the opportunities for social and professional networking were extensive and enjoyable. I think we owe a great debt of gratitude to our Finnish hosts for all they did for the IASS, and generally for the ISI, and for sharing their beautiful country with us over the course of the August fortnight.

### Thank You

A number of our members made very important contributions to the life and success of the Helsinki meetings. I would like to recognize some of the major contributors, while apologizing in advance to any I may overlook. Our Scientific Secretary, John Kovar, organized the extensive program of short courses, some of which were held before the main conference at the University of Jyväskylä, Finland, while others were held following the conference at Riga, Latvia. Paralleling the short courses were two critical satellite conferences on "Recent Trends in the Methodology for Social and Business Surveys" held at Jyväskylä and "Small Area Estimation" held at Riga. Statistics Finland and the Department of Statistics, University of Jyväskylä, organized the former conference, and we are especially indebted to the vigorous efforts of Risto Lehtonen and Erkki Pahkinen. Jan Kordos chaired the international organizing committee for the latter conference and the Central Bureau of Statistics, Latvia, and Janis Lapins handled local arrangements.

IASS Executive Director Benoît Riandey and Anne-Marie Vespa set up the IASS office in Helsinki and skillfully attended to the thousands of details required to successfully execute a large international conference.

Our program chair, Susan Linacre, did a fine job of pulling together an overall IASS program consisting of 11 invited paper sessions and many interesting and relevant contributed paper sessions. Of course, tens if not hundreds of you participated as authors, co-authors, presenters, discussants, and

session chairs. What would the meeting have been without you?

IASS successfully launched the Cochran-Hansen prize by awarding it to Mr. Noor Muhammad Farid (Indonesia) and to Mrs. Enel Pungas (Estonia). Graham Kalton chaired the selection jury for these inaugural prizes and capably handled the task of defining the prize and the mechanics of how it works.

IASS celebrated its 25<sup>th</sup> anniversary at Helsinki. Outgoing President Nanjamma Chinnappa provided the leadership, vision, and energy to make this silver jubilee very special. Professor T.M.F. Smith kindly gave a special commemorative lecture in the scientific program. Professor Leslie Kish spoke at the cocktail party, which took place following the IASS General Assembly at the beautiful offices of Statistics Finland. A number of our French colleagues carried fine French wine with them to Helsinki, which provided a most appropriate means of toasting our organization, the IASS, and its founding and current members who have made it such a success over the past 25 years.

Gérard Théodore and Xavier Charoy produced the very fine short volume *25 Years of the History of the IASS* in connection with the silver jubilee. Ken Birrell translated the booklet into English. And all IASS members should have received a copy of this history.

I would like to publicly and sincerely thank all who participated in making the Helsinki meetings such a big success for the IASS.

### Key Assignments for the Next Two Years

I look forward to the next two years in the life of the IASS, leading up to the 2001 meetings in Seoul. With your help, and with past President Chinnappa as an unbeatable role model, I will try to lead our organization through the challenges and opportunities that lie ahead.

Here are some of the members who will be helping me with major assignments over the coming two-year period. David Binder is chairing the program committee for the 2001 session in Seoul. His committee has already successfully arranged a total of 14 invited paper meetings, including

1. The role of survey sampling in the 21<sup>st</sup> century (Len Cook)
2. Response errors (Cathy Dippo)
3. Standardized survey interviewing: is it a good thing? (Barbara Bailar)
4. Linked employer-employee data (Cynthia Clark)
5. Multi-level survey designs and analysis (Chris Skinner)
6. Price/production indices (Geoff Lee/ Dennis Trewin)
7. Edit and imputation techniques (John Kovar)
8. Internet data collection (Warren Mitofsky)
9. Disclosure control and data access (Luigi Biggeri)
10. Multiple frame surveys (Alvaro Gonzalez-Villalobos)
11. Combining data from different sources (Tim Holt)
12. Quality issues in statistics (TBA by IAOS)
13. Indirect taxation and its implications for official statistics (TBA by IAOS)
14. Measurement of e-commerce (TBA by IAOS).

The session organizers are listed in parentheses, and the notation "TBA by IAOS" signifies a joint meeting where the organizer is to be announced by the IAOS.

Susan Linacre is handling the Cochran-Hansen prize while Cathy Dippo will lead the nominations committee. Our Scientific Secretary, Dan Kasprzyk, is planning the program of short courses for Seoul, and Kay-O Lee is assisting him with local arrangements.

IASS Vice President, Farhad Mehran will manage the IASS network of country representatives during the two-year period. This network needs some reinvigoration, and I urge as many of you as possible to volunteer your services to help Mr. Mehran in this important assignment.

Another important assignment concerns the IASS membership database. President Elect Xavier Charoy will lead the group that will design and build a new membership database, one that can be maintained efficiently and can communicate readily with the ISI membership database. This new database is needed to eliminate inaccuracies in the

current membership database; to address ISI concerns about the efficiency of operations; and to handle new complexities brought by the ISI's new cafeteria system.

Finally, I am pleased to have Danny Pfefferman chairing the program committee for the 2003 meetings in Berlin. He welcomes your ideas and energy, especially for the invited paper program, which will be formed largely between now and the close of the Seoul session.

### **Goodbye and Welcome**

This issue of *The Survey Statistician* is the last under the editorship of Mike Brick, whose tenure began in 1995. I certainly appreciate how demanding and time consuming the job of an editor can be, yet Mike did a truly splendid job during the past 4 years. And to him we say goodbye with a thousand thanks.

At the same time, we welcome our new co-editors, Leyla Mohadjer and Jairo Arrow, who take over with the next issue. I look forward to working with them and to seeing them continue to grow *The Survey Statistician* to new heights.

Best wishes to you and your families for the holiday season and a happy millenium new year,

Kirk Wolter  
President IASS



**HELSINKI 1999**  
**Report from Benoît Riandey**  
**Executive Director**

For the third and last time, I have the honor of presenting this report to the General Assembly as the Executive Director. This report also gives a general view of the last five years.

**1. Activities of the Secretariat**

Since the creation of the IASS, the expenses related to the Secretariat have been borne by the French *Institut National de la Statistique et des Études Économiques* (INSEE). Just before the IASS Jubilee, Paul Champsaur, Directeur Général de l'INSEE, confirmed this important support.

In 1994, the transfer of the Secretariat to Bordeaux caused a very large renewal of the team. Anne-Marie Vespa, the Executive Secretary, assumed the continuity of the Association from Paris, on a voluntary basis, while Ms. Claude Olivier started to perform the on-going administrative and managerial tasks of the Association (collecting dues, updating the membership list, organizing the ballots, mailing various publications, etc.)

In September 1997, Claude Olivier moved with the IASS Secretariat to the CEFIL, the International Center of INSEE in Libourne. Michel Péronnet, Deputy Director of the Center, personally took charge of the modernization of the computer tasks. I thank him very much for this huge work. Next September this responsibility will be assumed by Jean-Philippe Barjou.

The Internet system now facilitates the relationships between the Secretariat, the Executive Director, and the members. Moreover in 1998, the Secretariat was equipped with a system allowing payment by credit cards, and an account in dollars has just been opened to facilitate the payment of the dues.

In spring 1999 IASS election, the Executive Secretary counted the votes. The results of the election were announced by the President in the latest *ISI Newsletter*.

Consequently, our members can now rely on the efficiency and the stability of the Secretariat. Moreover the participants in the CEFIL workshop

on Labor Forces Survey (July 24-28, 2000) will appreciate the facilities of the Libourne Center for the Association: an elegant and well-equipped site (simultaneous translation, computers, etc.), low-cost and pleasant accommodation in the famous region of Bordeaux and Saint-Émilion.

**2. Publications**

Each member receives *The Survey Statistician* in English thanks to the Australian Bureau of Statistics (ABS), in French, mailed by the CEFIL; or in Spanish, thanks to the translation, printing, and mailing of the INE of Madrid. Statistics Canada is responsible for the translation from English to French.

The non-ISI members receive the *International Statistical Review* printed and distributed by INEGI (Mexico), the *ISI Newsletter* and the *Short Book Reviews* mailed by the IASS Secretariat, and the *Annual Report on Institutes of Statistics* (ARIS) co-edited by INSEE and ISI.

In 1998, 105 IASS members subscribed to *Survey Methodology* at a special rate, and the IASS paid half of the fee for 48 members from developing or transition countries. A total of 63 members benefited from a special rate for their subscription to the *Journal of Official Statistics*. The Association paid half of this subscription for 22 of them.

The Booklet of the IASS topics of the Istanbul Session was edited by Anders Christianson, and printed and sent by the ABS. The INEGI sent the remarkable CD-ROM of the proceedings of the Conference of Aguascalientes to all the members.

An updated issue (June 29, 1999) of the *Membership Directory* was printed (with complete names, list of members for each country, names and addresses of the national representatives) and sent to all IASS members.

*The History of the IASS*, written by Gérard Théodore and Xavier Charoy, was kindly translated into English by Statistics Canada. The IASS assumed the entire bilingual printing. It will be available to all the participants of the Jubilee Celebration and sent to all IASS members and to all national or international Statistical Institutions in September.

### 3. Report on Membership and Local Representatives

The number of institutional members increased from 16 in May 1998 to 32 in July 1999. The increase is due to three letters sent by the President or by the Executive Director to all the General Directors of National or International Bureaus of Statistics, inviting them to support the Cochran-Hansen Prize by becoming IASS institutional members.

Only two universities are institutional members of the IASS: the RTI (USA) and the Universidad Tres de Febrero (Argentina). That is why Claudio Quintano, Italian IASS representative, suggested the creation of a less expensive status in the IASS for the academic departments of statistics. It is proposed to create a special free status for IASS associated academic departments of statistics; in return, the IASS publications would be made available to students; the poster on special dues for students would be struck, and the Cochran-Hansen Prize would be announced.

Since its transfer to Bordeaux in 1994 and Libourne in March 1999, the nonpaying members have not been systematically deleted in the hope of an efficient recall carried out by the local representatives. The 1,151 (noninstitutional) members counted on June 29, 1999, are to be compared with the 1,030 members included in the 1993 Membership Directory and not with the 1,244 members included in the 1997 directory. The membership has been increasing for six years, but not as much as previously announced.

The geographical distribution of membership has evolved during these last six years with an increase of European and African members and, unfortunately, a decline of Asian members.

#### Distribution of Membership by Region

	1993	1999
Africa	116	164
Middle East	46	38
Eastern and Southern Asia	185	144
North America	223	215
Caribbean and Latin America	88	85
Europe	341	467
Oceania	31	38

	1993	1999
Developing countries	428	424
Transition countries	15	37
Developed countries	587	690
Total	1030	1151

This increase was directly due to the action of the local representatives in Italy, France and Africa. The Association is clearly spreading when a local representative is personally active, as is the case in Madagascar (+15), in Zambia (+8), in Haiti (+12) and in Baltic countries (+10). In Latin America, the renewal undertaken by Vice-President Clyde Charre de Trabuchi is yielding its first fruit, supported by the new translation of *The Survey Statistician* into Spanish. But the Council and the Secretariat have to mobilize local representatives in Asia and in the CIS (ex-Soviet Union) (see Part 4 in the membership directory).

Two other kinds of promotion may be highly recommended:

- the distribution of the poster for students,
- the announcement of the Cochran-Hansen Prize by academic professors and local representatives.

The IASS could also make an effort to contact some brilliant senior statisticians (authors of books or articles, referees, members of the ISI). The new membership directory will make this task easier.

The number of local representatives has gone up to 75 (see Part 5 in membership directory) but the renewal has not yet been completed. Local representatives are unequally mobilized. The transfer of the Secretariat to Libourne probably caused a rupture in the regular relationships with the Secretariat, a rupture that is still to be reduced. When a national representative leaves his position, it is highly recommended that he/she should recruit somebody to replace him/her.

### 4. Financial Report

The accounts are given in French francs or in Euros (on August 4, 1999, 1 Euro equaled US \$1.07).

These last years, the important scientific activity was expensive:

- the Conferences of San Antonio (expenses paid in January 1997), Buenos Aires, and Aguascalientes;
- from among other expenses we can quote the traveling expenses and accommodations of the President (who was retired) for her attendance at the Conferences, and the investment in the machine that allows dues to be paid by credit card.

The receipts have improved from 1997 to 1998. Despite a fall in interest rates, the appreciation of the securities was substantial in 1998: FF 27,031 (Euro 4,120.85).

Anticipating a negative result, the general Assembly in Istanbul authorized the Secretariat to withdraw a certain amount from the assets. It amounts to FF 68,897.76 (Euro 10,503.40) for 1997-1998. Such withdrawals cannot be maintained after 1999. In the past, the IASS sometimes had to reduce its activity because of a lack of receipts (see *25 Years of the History of the IASS*); because we have not increased dues since 1983, despite inflation.

The present challenge is to try to increase our receipts to the level of the major activity:

- to enforce it in the developing countries (Conferences of Buenos Aires, Aguascalientes, Abidjan, short training sessions in Rio de Janeiro in 2000 and in Seoul in 2001), and in transition countries (conference and short courses in Riga); and
- to be co-organizer of the major conferences on surveys (ICSN 1999 in Portland, ICES2 in 2000) even if the "admission ticket" might look too expensive for the IASS (US \$5,000).

The enrollment of 16 new institutional members allows us to announce that the Cochran-Hansen Prize can be maintained in the years to come. The scholarships granted by the United Nations Statistics Division financed 21 attendees of colleagues from developing or transition countries at the IASS Short Courses. Nevertheless the demand is much higher than the supply. The support from other international organizations would be appropriate.

The expenses of the Jubilee, as an investment, will be financed by a withdrawal from the assets.

Because of the Conferences of Abidjan, Helsinki, Riga, Portland, Rio and ICES2, the expenses to come (apart from the Jubilee) will be above the level of the 1998 receipts: FF 102,000 (Euro 15,550). The amount of expenses will be nearly FF 200,000 (Euro 30,490) in 1999 and FF 100,000 (Euro 15,250) in 2000.

But considering the level of the assets of the IASS, its General Assembly in Helsinki decided that the individual dues would remain unchanged for 2000: 130 French francs or 20 Euros (about US \$22) for developed countries, and 10 Euros (about US \$11) for developing or transition countries.

However, the ISI General Assembly decided to implement a new cafeteria system. This change will affect the IASS dues significantly (see the ISI blue document (page 24) mailed by the IASS secretariat in July). In summary, the ISI-IASS members pay their whole dues to ISI [dues for ISI only or for "ISI + one section" are equivalent: 120 Dutch Guilders (about US \$60)]. The *International Statistical Review (ISR)* and the *Short Book Reviews (SBR)* are no longer free (50 DG or about US \$25 for both reviews). The *ISI Newsletter* remains free for members of ISI or a section. The ISI redirects 30 Dutch Guilders to IASS for each ISI-IASS member. The IASS members who are not ISI members will continue to pay the fees to Libourne, but may or may not choose to pay for the ISR and the SBR.

### Conclusion

As a conclusion, I wish to emphasize the permanent cooperation with Nanjamma Chinnappa and John Kovar and the pleasure I found in these exchanges.

During the Jubilee Celebration, I will have the pleasure of introducing Christophe Lefranc, the next Executive Director starting in August 2000. All of you will appreciate his qualities, particularly the linguistic ones. My best wishes go to all the members of the new team for an enjoyable and efficient tenure.

<b>1997 ACCOUNTS</b> (expressed in French Francs)	
<b>EXPENSES</b>	
Secretariat current expenditures	3,091.46
President expenditures (including Istanbul)	26,071.32
Conference of Istanbul and Jerusalem	43,872.57
Meeting with the IASS Secretariat in Bordeaux/Libourne	2,514.00
Subscriptions to <i>Survey Methodology</i>	2,713.38
Subscriptions to <i>Journal of Official Statistics</i>	2,463.38
<i>ISI Newsletter</i>	23,241.21
Web development (2 years)	14,937.67
Sponsoring the CASIC Conference	13,613.38
Sponsoring statisticians from transition countries	1,720.00
Balance short courses	400.00
<b>Total</b>	<b>134,638.55</b>
<b>RECEIPTS</b>	
Membership fees	65,352.40
Interests on securities	17,701.00
<b>Total</b>	<b>83,053.40</b>
<b>Balance (difference between receipts and expenses)</b>	<b>- 51,585.15</b>
<b>ASSETS/ACTIF at 01/01/97</b>	
Securities	645,796.00
Secretariat bank account	85,265.28
Postal account	9,618.98
Sub-Total: Assets at the Secretariat	740,680.26
Assets at the Secretariat	740,680.26
Balance of previous short courses (previous scientific secretariat bank account)	39,395.45
<b>Total</b>	<b>780,075.71</b>
<b>ASSETS/ACTIF at 01/01/98</b>	
Securities	663,497.00
General IASS bank account	48,715.58
Postal account	16,277.98
<b>Total</b>	<b>728,490.56</b>
<b>1997 negative result: (780,075.71 - 728,490.56)</b>	<b>- 51,585.15</b>
<b>1998 ACCOUNTS</b> (expressed in French Francs)	
<b>EXPENSES</b>	
Secretariat current expenditures	6,839.60
Bank card equipment	8,562.60
President Mission Aguascalientes	16,285.32
Meeting with the IASS Secretariat in Libourne	1,451.00
Subscriptions to <i>Survey Methodology</i>	4,589.53
Subscriptions to <i>Journal of Official Statistics</i>	2,555.13
<i>ISI Newsletter</i>	20,061.28
Web development	5,700.00
Sponsoring the Conference of Buenos-Aires	9,477.43
Sponsoring the Conference of Aguascalientes	21,693.64
IASS Executive Committee meeting	16,285.35
ISI Executive Committee meeting	3,374.37
Conferences preparation (Riga, Napoli)	2,770.00
<b>Total</b>	<b>120,670.77</b>

<b>1998 ACCOUNTS</b> (expressed in French Francs)	
<b>RECEIPTS</b>	
Membership fees	76,257.16
Interests on securities	27,031.00
<b>Total</b>	<b>103,288.16</b>
Negative result	- 17,382.61
<b>ASSETS/ACTIF at 01/01/98</b>	
Securities	663,497.00
Bank account	48,715.58
Postal account	16,277.98
<b>Total</b>	<b>728,490.56</b>
<b>ASSETS/ACTIF at 01/01/99</b>	
Securities	690,528.00
Bank account	5,065.48
<b>Total</b>	<b>711,107.95</b>
1998 negative result	- 17,382.61



**IASS Program Committee Report  
by Susan Linacre**

The IASS Program Committee for the 52<sup>nd</sup> Session of the ISI were: Susan Linacre (chair) (Australia), Anders Christianson (Sweden), I.P. David (Philippines), Seppo Laaksonen (Finland), Danny Pfeffermann (Israel), David Morganstein (USA), Fritz Scheuren (USA), and Vijay Verma (UK).

Calls for suggested topics for the program were made during 1996 and 1997 in the *ISI Newsletter* and *The Survey Statistician*, and a list of possible topics was also set out for comment. In addition, the members of the Committee sought the views of other IASS members. A list of possible topics was drawn up and ranked by the Committee. Priority was given to topics of current importance, topics not covered recently in similar conferences, and topics for which relevant work was underway or had recently been undertaken. Overall, a balance was sought between practical and theoretical topics. Coverage of issues of particular interest to developing and transition countries was also sought.

Of the topics submitted, 11 were accepted by the organizing committee (8 as IASS sponsored topics, 3 as joint topics with IAOS, and 1 as joint with IASC). The ISI organizing committee encouraged the chairs of the individual sessions to reach agreement on a number of joint sessions; this was a useful approach to maximizing the value of the sessions available. The total of 11 topics was an improvement on the program for the previous ISI, and hopefully, the program for Seoul will be bigger again. Together with many relevant and interesting contributed paper sessions, the 11 Invited Paper topics led to a diverse offering of sessions. These were well spread by the program organizers across the full period of the conference. The Committee appreciated working with J.N.K. Rao, the ISI Program Chair, and Ilkka Mellin, Secretary General of the National Organizing Committee.

I would like to thank those people who suggested topics for the session. I would also like to thank the committee members, the session organizers, and the presenters.

An IASS publication that presents a long version of the papers, where available, is being produced for

the benefit of members not able to attend the meeting.



**Small Area Statistics Conference  
Dennis Trewin  
Australian Bureau of Statistics**

I was very fortunate to be among those who attended an excellent two-day Conference on small area statistics in August 1999 immediately after the Helsinki ISI Session. The Conference was held in the delightful city of Riga, Latvia.

This was the first occasion that many of us had visited Latvia. The visit was made even more memorable by the excellent hospitality provided by our hosts — the Central Statistical Bureau of Latvia and the University of Latvia. As well as helping to arrange an excellent Conference, they provided a memorable and historical venue and two evenings of first class entertainment and fine food.

We are grateful to Aija Zigure and Professor Juris Kruminis for providing the support of their organizations. Their efforts were rewarded by nearly 100 participants from about 30 countries — a truly international conference.

Jan Kordos (Poland) was the hardworking and effective scientific program chair. He was ably assisted by Janis Lapins who looked after the local arrangements. We were rewarded by an excellent program of invited and contributed papers. The paper was a good blending of researchers and practitioners on small area statistics. However, there seemed to be general agreement that the theoreticians were running well ahead of practitioners. More about this later.

Danny Pfeffermann (Israel) was the keynote speaker and also opened the conference. He provided a review of small area estimation techniques highlighting, in particular, more recent developments. Yong You and Jon Rao (Canada) and Malay Ghosh (USA) also provided review papers, although their scope was more limited — hierarchical Bayes estimation using two-level models and Bayes and Empirical Bayes methods, respectively.

There were papers on applications, across a range of subject matters, from many countries including

Canada, the Netherlands, Finland, United Kingdom, Poland, Norway, Italy, Hungary, U.S.A., France, Brazil, Latvia, Philippines and India.

Papers were not limited to model-based methods. David Marker (USA) presented a paper describing sample design techniques that take account of the need to support small area techniques. Robert Templeton (New Zealand) provided a very interesting paper describing their use of taxation data to provide small area business indicators. There were also several papers discussing the use of remote sensing data.

An interesting feature of the conference was the reluctance of most official statistical agencies to use model-based techniques as a component of their official statistical outputs. Interestingly, the private sector in the United States was making increasing use of these techniques and at a much faster rate than the government sector.

In an interesting recent development, the U.S. Academy of Science, after an extensive study, recommended the application of small area estimation methods to estimate the proportion of persons living in poverty rather than relying on out-of-date census data. Validation of the small area estimates was a key part of the study and had a big influence on the findings.

My conclusion as an official statistician was that we should make greater use of these methods in our outputs, but we must consider the following:

- the estimates need to be branded differently from other official statistics (the methods and the assumptions should be described in any releases);
- their validity needs to be assessed to provide user confidence;
- the underlying models need to be described in terms that users can understand and the validity of the underlying assumptions should be discussed with the key users;
- their quality should be described in quantitative terms as far as possible;
- there should be peer review of the models by an expert, as the models are very complex and the choice of methods is considerable.

Official statisticians use models in many parts of their work (e.g., national accounts, balancing of input-output tables, hedonic regressions for quality adjustment, population estimates and projections), so why not for small area estimation if the validity of the models can be proven?

There are spare copies of the Proceedings of this excellent Conference — 30 papers, many of a high quality by experts in the field. The price is US \$35 including postage.

Those who wish to purchase the Proceedings can contact directly:

Ms. Jolanta Vikmane  
Information Centre of  
the Central Statistical Bureau of Latvia  
1 Lacplesa Street  
LV-1301 Riga  
Latvia  
Fax: (371) 7830137  
Phone: (371) 7366804  
E-mail: JVikmane@csb.lv

The order form can be downloaded from the home pages of the CSB at: <http://www.csb.lv>.



**SAS Procedures  
for Analysis of Sample Survey Data  
Anthony An, Donna Watts, and Maura Stokes  
SAS Institute, Inc., Cary, NC**

**Overview**

Researchers often use sample survey methodology to obtain information about a large population by selecting and measuring a sample from that population. By applying scientific probability-based designs to select the sample, researchers reduce the risk of a distorted view of the population and allow statistically valid inferences to be made from the sample. Refer to Cochran (1977), Kalton (1983), and Kish (1965) for more information on statistical sampling. The SURVEYSELECT procedure selects probability-based samples from a study population.

Many SAS/STAT procedures, such as the MEANS and GLM procedures, can compute sample means and estimate regression relationships. However, in most of these procedures, statistical inference is based on the assumption that the sample is drawn from an infinite population by simple random sampling. If the sample is actually selected from a finite population using a complex design, these procedures generally do not calculate the estimates and their variances correctly. The SURVEYMEANS and SURVEYREG procedures properly analyze survey data, taking into account the sample design. These procedures use the Taylor expansion method to estimate sampling errors of estimators based on complex sample designs.

The capabilities of these survey procedures are:

**SURVEYSELECT**

*Designs Accommodated*

- stratification
- clustering
- replication
- multistage sampling
- unequal probabilities of selection

*Sampling Methods*

- simple random sampling

- unrestricted random sampling (with replacement)
- systematic
- sequential
- selection probability proportional to size (PPS) with and without replacement
- PPS systematic
- PPS for two units per stratum
- sequential PPS with minimum replacement

**SURVEYMEANS**

*Designs Accommodated*

- stratification
- clustering
- unequal weighting

*Available Statistics*

- population total
- population mean
- proportion
- standard error
- confident limit
- *t* test

**SURVEYREG**

*Designs Accommodated*

- stratification
- clustering
- unequal weighting

*Available Statistics*

- fit linear regression model
- regression coefficients
- significance tests
- estimable functions
- contrasts

These procedures were experimental in Version 7 of SAS/STAT software, and they are production in Version 8.

## Survey Sampling

The SURVEYSELECT procedure provides a variety of methods for selecting probability-based random samples. The procedure can select a simple random sample or a sample according to a complex multistage sample design that includes stratification, clustering, and unequal probabilities of selection. With probability sampling, each unit in the survey population has a known, positive probability of selection. This property of probability sampling avoids selection bias, enabling the use of statistical theory to make valid inferences from the sample to the survey population.

The SURVEYSELECT procedure provides methods for both equal probability sampling and probability proportional to size (PPS) sampling. In equal probability sampling, each unit in the sampling frame, or in a stratum, has the same probability of being selected. In PPS sampling, a unit's selection probability is proportional to its size measure. PPS selection is often used in cluster sampling, where you select clusters (or groups of sampling units) of varying size in the first stage of selection. For example, clusters may be schools, hospitals, or geographical areas, and the final sampling units may be students, patients, or citizens. Cluster sampling can provide efficiency in frame construction and other survey operations. For details on probability sampling methods, refer to Cochran (1977), Kalton (1983), and Chromy (1979).

The SURVEYSELECT procedure provides the following equal probability sampling methods:

- simple random sampling
- unrestricted random sampling (with replacement)
- systematic random sampling
- sequential random sampling

This procedure also provides the following probability proportional to size (PPS) methods:

- PPS without replacement
- PPS with replacement
- PPS systematic
- various PPS algorithms for selecting two units per stratum
- sequential PPS with minimum replacement

The procedure uses fast, efficient algorithms for these sample selection methods. Thus, it performs well even for very large input data sets or sampling frames, which may occur in practice for large-scale sample surveys.

Stratification controls the distribution of the sample size in the strata. It is widely used in practice towards meeting a variety of survey objectives. For example, with stratification you can ensure adequate sample sizes for subgroups of interest, including small subgroups, or you can use stratification to improve the precision of the overall estimates. The SURVEYSELECT procedure performs stratified sampling, selecting samples independently within the specified strata, or nonoverlapping subgroups of the survey population. When you are using a sequential selection method, the SURVEYSELECT procedure also can sort by control variables within strata for the additional control of implicit stratification.

The SURVEYSELECT procedure provides replicated sampling, where the total sample is composed of a set of replicates, each selected in the same way. You can use replicated sampling to study variable nonsampling errors, such as variability in the results obtained by different interviewers. You can also use replication to compute standard errors for the combined sample estimates.

## Survey Data Analysis

The SURVEYMEANS and SURVEYREG procedures perform statistical analysis for survey data. These analytical procedures take into account the design used to select the sample. The sample design can be a complex sample design with stratification, clustering, and unequal weighting. To analyze your survey data with these procedures, you need to specify sample design information; for example, design strata, clusters, and sampling weights.

If your analysis should include a finite population correction factor (fpc), you can input either the sampling rate or the population total. Otherwise, the procedures do not use the fpc when computing variance estimates.

For a multistage sample design, the variance estimation method depends only on the first stage

of the sample design. Therefore, if you are specifying the sampling rate, you should input the first-stage sampling rate, which is the ratio of the number of PSUs in the sample to the total number of PSUs in the target population.

You can use the SURVEYMEANS procedure to compute the following statistics:

- population total estimate and its standard deviation and corresponding *t* test
- population mean estimate and its standard error and corresponding *t* test
- proportion estimate for a categorical variable and corresponding *t* test
- (1- $\alpha$ )% confidence limits for the population total estimates, the population mean estimates, and the proportion estimates
- data summary information

PROC SURVEYMEANS does not perform domain analysis (subgroup analysis) at present. However, note that you can produce a domain analysis with PROC SURVEYREG. Domain analysis will be available in a future release of the SURVEYMEANS procedure.

PROC SURVEYREG fits linear models for survey data and computes regression coefficients and their variance-covariance matrix. The procedure also provides significance tests for the model effects and for any specified estimable linear functions of the model parameters.

### Variance Estimation

The SURVEYMEANS and SURVEYREG procedures use the Taylor expansion method to estimate sampling errors of estimators based on complex sample designs. This method obtains a linear approximation for the estimator and then uses the variance estimate for this approximation to estimate the variance of the estimate itself (Woodruff 1971, Fuller 1975). When there are clusters, or primary sampling units (PSUs), in the sample design, the procedures estimate the variance from the variation among the PSUs. When the design is stratified, the procedures pool stratum variance estimates to compute the overall variance estimate.

For a multistage sample design, the variance estimation method depends only on the first stage of the sample design. Thus, the required input includes only first-stage cluster (PSU) and first-stage stratum identification. You do not need to input design information about any additional stages of sampling. This variance estimation method assumes that the first-stage sampling fraction is small or that the first-stage sample is drawn with replacement, as it often is in practice.

For more information on variance estimation for sample survey data, refer to Lee, Forthoffer, and Lorimor (1989), Cochran (1977), Kish (1965), Särndal, Swenson, and Wretman (1992), Wolter (1985), and Hansen, Hurwitz, and Madow (1953).

In addition to the traditional Taylor expansion method, other methods for variance estimation for survey data include balanced repeated replication and jackknife repeated replication. These methods usually give similar, satisfactory results (Wolter 1985, Särndal, Swenson, and Wretman 1992); the SURVEYMEANS and SURVEYREG procedures currently provide only the Taylor expansion method.

### Availability

The SAS System runs on a variety of platforms and operating systems, and it is licensed on an annual basis. Please contact SAS Institute directly for more information.

### Contact Information:

SAS Institute, Inc.  
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SAS web site: <http://www.sas.com/>  
Statistics and Operations Research web site:  
<http://www.sas.com/rnd/app/>.

Additional information on the survey selection and analysis procedures is available at <http://www.sas.com/rnd/app/>.

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## Question/Answer

As always, we welcome alternative views on the issues raised, comments on the answers provided, and especially other good and practical questions. Please send questions and observations to:

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### Some Comments From Readers

**Q/A38.2** discussed some practical aspects of variance computation in large-scale surveys.

John C. Koop has offered the following further remarks: "Perhaps if the sample surveys in Nepal used 'Mahalanobis' technique of interpenetrating samples, the problem of estimating variance and related questions can be resolved. A discussion of this method can be found in the *Handbook of Statistics* edited by P.R. Krishnaiah and C.R. Rao and published by North Holland, Amsterdam, in 1988, pp 333-368. A paper on inference based on this technique can be found in the April 1998 issue of *Sankhya B Part 1*, pp 44-63. This writer is the author of these two papers."

In **Q/A40.2** we noted the disadvantage of covering an arbitrary half of the population each year in a two-year survey, rather than covering a spatially representative sample each year.

David J. Fitch offers some further remarks: "As invited, let me comment on your June 1999 Answers. I thought your note about problems where half of the Indian Districts are sampled one year and half the other year was quite perceptive; and your advice on a better way to sample — probably a bit more expensive per unit but less expensive for a given degree of accuracy — was good. As I see things, much inefficiency results from administrators believing that the goal is to maximize the number of interviews per rupee, whereas it should be the best estimate that can be produced with a given number of rupees. Cost cutting, like not updating maps, can waste much money."

**Q/A40.1** noted some situations where it may not be worth introducing sample weights despite some variation in selection probabilities. However, David Fitch remarks: "I was less happy about your response to this question. I think we should say that self-weighting exists only in textbooks, and work to see weighting as standard practice, something which is more practical now with computers. I would like to know more about weight truncation. Maybe you can discuss this some day in this column."

**Q41.1** In Turkmenistan, a household survey with a rather extensive questionnaire covering economic and social conditions of the population is being planned. Consideration is being given to a 10 percent sample of the population, roughly 100,000 households, in the belief that there is some international (Eurostat) recommendation for a survey this large. Is this reasonable? Please comment.

It appears quite inappropriate to consider such a large sample size for a survey using an 'extensive questionnaire.' I cannot believe that there is an international recommendation of this type; or perhaps some such recommendation is being referred to out of context. Can you give some more information about the nature (content, main objectives) of the survey, and what particular recommendation is being referred to? There are only a few situations in which one can imagine a sample of this size. [1] A truly 'sample census', operationally linked to or even substituting for a complete census — like the 'long form' used in a number of countries. [2] A 'rolling sample' which aims to more or less completely cover the entire population — like a census — but with data collection spread over a long period such as a whole decade. (As you may know, Leslie Kish has long championed this cause.) [3] An 'inter-censal population survey,' conducted in the middle of two censuses with the objective of independently updating the detailed population estimates. In all these cases, the content has to be relatively simple, in inverse proportion to the size of the sample. It does not appear that any of the above applies to the situation you refer to. In complex surveys using extensive questionnaires, especially when experience in conducting sample surveys is lacking, it is advisable to be modest in the choice of the sample size.

**Q41.2** As you know, Turkey has suffered a major natural disaster, and this affects our statistical work. My question concerns our regular Labor Force Survey, which is designed to produce regional as well as all-Turkey estimates. The proposal to postpone the March 2000 round of the survey was considered, but rejected. However, we are unable to produce reliable estimates for a number of regions, nor for all-Turkey. We are considering excluding the affected regions altogether from the survey, and producing results only for the remaining regions. All-Turkey estimates, of course, will also not be produced. What would you think of this proposal?  
(Omer Toprak)

We are sorry for the major disaster your country has suffered. Only you, with detailed knowledge of the actual situation, can decide the best course of action for the LFS. However, in relation to your specific proposal, I would like to suggest that it might be better to try to INCLUDE whatever possible from the affected regions, rather than to exclude them altogether.

It is important to obtain at least some idea of the effect of the earthquake on economic activity, as the users will no doubt be concerned with that. Covering a part, even if less severely affected, of a region can still provide a minimum estimate of the effect of the disruption. The same will apply to national level estimates. Within an affected region, the survey may provide useful indications of the effect of the disaster; excluding the region altogether will make this impossible. Furthermore, with sample area as the unit of analysis, it may be possible to obtain some quantitative idea of the relationship between the degree of disruption and its effect on the level and nature of economic activity, and perhaps to use this relationship to 'impute' the situation in the more severely affected areas not covered.

It will be important to include in the survey report a special chapter documenting the incompleteness in coverage, and indicating its possible effect on the estimates presented for the affected regions as well as at the national level. I hope these comments are helpful.



## Country Reports

### ALGERIA (from Hammouda N. Edinne)

In 1998, the National Statistics Bureau conducted the 4<sup>th</sup> general census of population and housing in post-independence Algeria. Mr. Souaber headed the operation and Ms. Ardoun was in charge of computer processing. Results of processing a 20 percent sample were published in a preliminary publication (statistics collection No. 80). Complete processing is in progress.

A survey on maternal mortality is currently being carried out by the National Public Health Institute and should be complete in late 1999. Dr. Abrouk is heading up this project. All registered deaths of women of childbearing age (15-49) are reinvestigated by a medical team at the reported location of the death.

A project to assign a statistical identification number to all economic or administrative establishments is well underway, with the NSB in charge. Several large operations are in the preparation stage: a national survey on household spending, the first of its kind since 1988; an economic census; and a general census of agriculture. The last GCA was done in 1974.

On the organizational scene, restructuring and redefinition of the missions of the central statistical agency is the order of the day. With regard to studies, the Research Center for Development Applied Economics is finalizing plans for an agency to monitor the labor market for the Ministry of Labor, Social Protection and Vocational Training, funded by the United Nations Development Program. The study's director is Mr. Musette. With respect to research training, the University of Sidi Belabbes is to organize the 3<sup>rd</sup> Applied Statistics Days during this university year. The first two were organized in 1994 and 1997 by the Houari Boumediène University of Science and Technology in Algiers. The National Institute for Planning and Statistics is planning to open a survey methodology laboratory, with Dr. Zaatout heading the post-graduate section.

For further information, please contact Hammouda N. Edinne by e-mail at: [ardoun@onssiege.ons.dz](mailto:ardoun@onssiege.ons.dz).

### EUROSTAT (from Christina Osterberg)

Since the beginning of the 90s, EU member states have discussed the lack of comparable time use data. The increasing need for comparability between national time use surveys was soon recognized by Eurostat, and a project for **Harmonizing European Time Use Surveys** was formed together with an expert group on time use, representing EU and EFTA countries.

A time use survey design was developed. It was based on detailed analysis of national time use surveys carried out in EU and EFTA countries. Workshops were arranged, and comments from international organizations as well as from time use researchers around the world were taken into account.

A series of pilot surveys was conducted in late 1996 and early 1997 in nine member states and nine Central Eastern European (Phare) countries. Eurostat implemented the pilot surveys in order to improve survey tools and to identify possible shortcomings of the survey design. The feasibility of the survey design had to be verified, including unit of study, concept of reported days, contents and layout of questionnaires, diary, and coding system. Despite apparent differences between countries, the overall conclusion drawn from the pilot surveys is that harmonization of time use data is feasible.

In August 1999 it was ensured that seven EU member states are carrying out time use surveys in the years 1998-2001. Some other countries have advanced plans but are still looking for funding. This implies a rather different situation compared to March 1998, when only two countries reported any definite plans. Given the positive development in the member states' interest in time use surveys, Eurostat now finds it even more important than earlier to finalize the methodology on harmonized European time use surveys. It is Eurostat's intention to present a final draft by the beginning of 2000.

The guidelines for harmonized European time use surveys will include recommendations on: population; sample; coverage of the year; number of diary days; method of assigning diary days, including information needed to give proper weights to different days in the estimation process;

household questionnaire; individual questionnaire; time diary; activity coding list; a set of basic statistics for international comparisons, including precise definitions of background variables to be used; estimators for the basic statistics, i.e. description of the information needed for estimation with the aim of obtaining as comparable estimates as possible between countries, despite differences in sample design and construction of estimators at national level; certain aspects of field work, especially means of improving data quality and response rate, which includes questions on training of interviewers, workload of interviewers, postponement of diary days, etc.

For more information, please contact: Christina Österberg, Eurostat, Living conditions, Bâtiment Jean Monnet, L-2920 Luxembourg. E-mail: christina.osterberg@eurostat.cec.be.

#### **JAPAN (from Yasuko Nagai)**

**Measurement of Intensity of Attitude towards Nuclear Power Generation:** It is essential that the wishes and views of public opinion at large be adequately reflected in any attempt to deal with the issues of energy and nuclear power. Yet, a diversity of opinions prevails in society, and any judgment should be based on data that reflect how to approach public relations and how to find actual solutions to this problem. Accordingly, we intend to analyze attitudes toward nuclear power generation (NPG) from a multifaceted perspective, and to consider what will constitute an effective approach to counter-measures.

Moreover, many questions refer to the intensity of belief, "How strongly do you feel?" However, this response is artificial and depends on the subjective judgment of the respondents. In addition, for Japanese people, desired results may not always be obtained because of customs in the Japanese language. This research prepared two types of question sheets, with the index being the intensity of an opinion. The aim of this study was to develop a scale to measure the intensity as the subject of the attitude toward NPG.

This study began with the following key: if an attitude toward an opinion is tightly fixed, regardless of the leading introduction, people will agree or disagree without being affected by the leading

introduction. Opposed to this, if an attitude is weak in intensity, both opinions can be accepted for the same issue depending on the leading introduction.

Data were collected in an opinion survey (interviewing) addressed to samples 18 to 79 years of age, drawn by stratified two-stage random sampling, with probability proportional to size. The samples (N=1,582) used in the survey were randomly divided into two groups. Surveys were conducted for both groups, one using positively biased questions and the other using negatively biased questions.

The homogeneity between the two groups (the group displaying positive opinions and the group displaying negative opinions) was examined. Because of the base of the analysis by group, it was essential to compare the homogeneity between the answer rates in the group displaying positive opinions and in the group displaying negative opinions. For the attributes and "how favorable to the use of NPG" before presenting biases, a chi-square test was conducted. Significant differences were not observed, and the hypothesis of "the answer ratio is the same in the group displaying positive opinions and the group displaying negative opinions" was not rejected. Furthermore, the analysis by other questions supported homogeneity between them, too.

The general format for the questions is as follows: First, an assumption was presented; for example, (1) "global warming caused by CO<sub>2</sub> is a problem all over the world," then (2) the argument was established that the "amount of CO<sub>2</sub> exhaust at a nuclear power plant is very small," (3) refutation was established that "a small amount of radiation is discharged around any nuclear power plant," and (4) under these conditions, the following conclusion was induced: "The amount of discharged radiation is very small compared with natural radiation. Therefore, when thinking about the impact on the earth, we should promote nuclear power generation." This is a positively biased question toward NPG.

The other question (negatively biased question toward NPG) had (1) the same assumption, (2) the sequence was reversed this time, and the argument was established that the "amount of CO<sub>2</sub> exhaust at a thermal power plant is more than at a nuclear power plant," (3) refutation that "the amount of CO<sub>2</sub>

exhaust at a nuclear power plant is very small," and (4) under these conditions, a contrary conclusion was induced: "A small amount of radiation is discharged around any nuclear power plant and therefore, despite the very small amount of CO<sub>2</sub> exhaust, we should not promote nuclear power generation." It was expected that these two types of questionnaire items would be strongly connected.

Positive answers to positively biased questions toward NPG in the conclusion, that is to say, the proportion of "Yes", was referred to as "P." While negative answers to negatively biased questions toward NPG in the conclusion, the proportion of "No," meaning positive to NPG, was referred to as "N."

In this way, opposite opinions were presented. By comparing the proportion in the same direction, P and N, an attempt was made to measure the attitude intensity toward NPG. The differences between P and N indicated the degree of their intensity of attitudes for group. Accordingly the data analysis was done by the following measures: (1) "Attitude toward NPG (P or N)", (2) "Absolute Intensity (P-N)", and (3) "Relative Intensity  $[(P-N)/(P+N)/2]$ ." As a result, remarkable differences in attitude and its intensity among different attributes were found.

For the details of sample design and analysis, contact Yasuko Nagai at Kansai Electric Power Company, Inc., 11-20 Nakoji, 3-chome, Amagasaki, Hyogo, 661-0974, Japan, fax: 81-6-6494-9827, e-mail: K441931@kepco.co.jp; or Chikio Hayashi at The institute of Statistical Mathematics, Sakuragaoka Brijian, No. 304, 15-8, Sakuragaoka, Shibuya-ku, Tokyo, 150-0031, Japan, fax: 81-3-3496-4680.

#### **KOREA (REPUBLIC OF) (from Jeabok Ryu)**

The National Statistical Office will carry out a 2000 Population and Housing Census starting November 1, 2000. The Population and Housing Census has been done every 5 years. This will be the 16<sup>th</sup> Population Census and the 8<sup>th</sup> Housing Census. Some items will be changed for the 2000 Census. In order to test these items, a preliminary survey will be carried out from November 1, 1999.

For more information, contact Jongsik Baik, Director, Population Statistics Division, NSO, e-mail: baik@nso.go.kr.

Beginning on November 1, 1999, the Ministry of Labor has a plan to execute a survey on labor conditions of companies with one to four permanent workers. IBRD already required a regular wage for these small companies. The survey items are age, educational level, working hours and wage, etc. For more information, contact K.J. Lee, Assistant Professor, Korean National Open University, e-mail: kjlee@9500.knou.ac.kr.

The Statistical Survey Section of the Korean Statistical Society will hold a workshop entitled "Imputation" on February 15, 2000, in Seoul. On June 29, 1999, this section held a workshop on small area statistics and invited Malay Ghosh as a special speaker. For more information, contact J.W. Park, Assistant Professor, Suwon University, e-mail: jwpak@mail.suwon.ac.kr.

The new society is made up of several fields related to survey research such as statistics, sociology, management, public administration, education, tourism and hotel management, mass communication, etc. The name of the new society will be the Korean Survey Research Society (a tentative name) and the first general meeting will be held on November 13, 1999, at the Seoul National University. This society mainly deals with theory and its application to survey research. For more information, contact Professor H.Y. Lee, Sungshin Women's University, e-mail: hylee@cc.sungshin.ac.kr.

#### **LATVIA (from Janis Lapins)**

In 1999, the Latvian Statistical Society was founded in Latvia. The foundation meeting took place June 2, 1999. Among the participants at this meeting were representatives from universities, statistical agencies, and users of statistical methods and statistical information from different institutions and organizations. At the moment, the Latvian Statistical Society has about 80 members.

Several satellite activities, including three IASS Short Courses and a conference, were organized in Latvia in August 1999 just after the 52<sup>nd</sup> ISI Session in Helsinki. The most significant of these events

was the IASS Satellite Conference on Small Area Estimation, Riga, Latvia, August 20-21, 1999.

The conference was organized on the initiative of the Baltic countries, and was aimed at improving the knowledge transfer of new methods in small area statistics. The objective of the conference was to present a review of different methods applied to small area estimation, and to review the recent developments in research on both theoretical and practical aspects in the field of small area statistics.

Altogether there were 98 conference participants from 43 countries around the world. The list of participants shows that the problems of small area estimation are of great interest not only for specialists from developed countries but also for specialists from developing countries and countries in transition in Central and Eastern Europe. The conference scientific program included 16 invited papers and 16 contributed papers. At the final plenary session Prof. D. Pfeffermann (Israel) and Prof. J.N.K. Rao (Canada) summed up the Conference. It was pointed out that a good balance between the theoretical and practical aspects of small area estimation was achieved at the conference.

The proceedings containing 15 invited papers and 16 contributed papers were published before the conference. The content of the proceedings and the order form is available at: <http://www.csb.lv>.

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#### **LITHUANIA (from Danute Krapavickaite)**

A workshop on survey sampling theory and methodology took place in Palanga — the largest resort of Lithuania with white sand beaches and dunes situated by the Baltic Sea 25 km north of Klaipeda — on warm days May 26 - June 1, 1999. Twenty-seven participants came from Estonia (6), Latvia (6), Lithuania (7), Finland (3), and Sweden (5). The purpose of the workshop was: to promote interest in theoretical and methodological problems of survey sampling among teachers and students from universities and practitioners from statistical agencies of the Baltic countries; to enhance their theoretical and methodological skill in survey

sampling; to stimulate scientific research; to learn about current research projects in the Baltic and Nordic universities; to make stronger contacts among researchers and students and to promote closer cooperation between the specialists from the Baltic and Nordic countries.

It was the third such meeting of survey statisticians. The Summer School on survey sampling theory and methodology was held in Tartu, Estonia in 1997 (*The Survey Statistician*, No. 37), and Workshop in Jurmala, Latvia in 1998 (*The Survey Statistician*, No. 39). Professors and specialists-practitioners from Nordic countries are usually invited as main lecturers to these meetings. Prof. Bengt Swensson from the University of Örebro was the main lecturer this year. He gave four lectures:

- Design based, quasi design based or pseudo inference? (1 hour)
- Variance estimation in survey sampling including bootstrapping and Pareto sampling (3 hours)

A good friend of survey statisticians of Baltic countries and a member of the organizing committee of the meeting, Prof. G. Kulldorff gave a review of survey sampling in a historical perspective. The other members of the organizing committee — Imbi Traat (Estonia), Janis Lapinš (Latvia), Danute Krapavickaite (Lithuania), Aleksandras Plikusas (Lithuania) also gave lectures. All the participants made presentations. Something new and nice for the participants from Baltic countries were presentations by Swedish students on sampling surveys in forestry and vehicle speeds, and by Finnish students on small area estimates. The main sponsors of the meeting were Umeå University (Sweden) and the Lithuanian Department of Statistics. All the participants of the meeting are thankful to them. The hope is that this meeting is not the last one.

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#### **NEW ZEALAND (from Robert Templeton)**

Statistics New Zealand has recently conducted a new Agricultural Production Survey and is currently

developing two surveys (Survey of Older People in 2000 and Survey of Saving and Net Worth in 2001).

**Agricultural Production Survey:** Statistics New Zealand has recently developed a livestock and cropping (grain/arable) survey funded by the Ministry of Agriculture and Forestry. Survey questionnaires were sent out in July 1999 asking for information about livestock numbers, land use and area in cropping. Provisional data are expected to become available in December 1999 with final results due around five months later. The main objective of the Agriculture Production Survey in 1999 is to provide reliable, up-to-date estimates for livestock, grain/arable cropping, poultry and land use. A survey of nonlivestock farmers (horticulture) is planned for June 2000. The survey results are used by a wide range of industries and sector groups, including businesses providing farming inputs, support services and primary product processing to farmers. The meat processing and transport sectors use livestock numbers to forecast capacity needs. The 1999 Agriculture Production Survey sample (about 40,000 farms) was drawn from the population frame — 'AgriBase'. AgriBase is a land-based database containing national farming information maintained by AgriQuality New Zealand.

**Survey of Older People In 2000:** The New Zealand government has commissioned research into the living standards of older people in New Zealand. The Survey of Older People in 2000 is a standard of living survey of the population aged 65 years and over. The survey is being developed on behalf of the Superannuation Task Force 2000, which has been established to develop a stable retirement income framework that is flexible enough to cope with a changing environment. The Survey of Older People will collect information on access to services, source of support, health needs, income and assets and ability to purchase requirements. This information will be used to look at what determines and influences the standard of living of New Zealanders aged 65 and over and will help government with policymaking and program development. The method chosen to run the survey is a supplement to the Household Labor Force Survey in the March 2000 quarter. The survey results are expected to be reported back to the client in June 2000. The field test is planned to commence November 1999. Questionnaire design

and sample design will commence in December 1999. The initial survey will be held February 2000.

**Survey of Saving and Net Worth in 2001:** The Retirement Incomes Policies Report (1997) of the Periodic Report Group called for improved statistics on saving and net worth. Specifically, they wanted better information on the level of private provision for retirement. The group stated that a measure of wealth is needed to improve the understanding of retirement issues through better informed analysis, to provide a factual foundation for improved decisionmaking by government, to improve public understanding and awareness and to increase the likelihood of political consensus. Information from the survey will be available for analysis to assist the Periodic Report Group in 2003. Statistics New Zealand is currently undergoing a consultation round to develop survey objectives. The project commenced in July 1999 and data will be available by June 2002.

For more information, contacts are: For the Agricultural Production Survey: Alana Tipping at 64-3-374-8713 (e-mail: [alana\\_tipping@stats.govt.nz](mailto:alana_tipping@stats.govt.nz)). For the Survey of Older People in 2000: Julie Woolf at 64-4-496-2704 (e-mail: [julie\\_woolf@stats.govt.nz](mailto:julie_woolf@stats.govt.nz)). For the Survey of Saving and Net Worth in 2001: John Scott at 64-4-496-2722 (e-mail: [john\\_scott@stats.govt.nz](mailto:john_scott@stats.govt.nz)).

#### **PALESTINE (from Faisal Awartani)**

After the Oslo agreement between Palestinians and Israelis in 1993, all the statistical activities were transferred to the Palestinian Authority (PA) and therefore a Palestinian Central Bureau of Statistics (PCBS) was established. A master plan for developing official statistics was prepared by the PCBS and it was adopted by the Palestinian national authority (PNA).

In the PCBS master plan the following areas are to be targeted:

1. **Population:** demography, income and consumption, labor, health, education, and housing
2. **Economic:** production, external trade, prices, public finance, national accounts, and business register

**3. Area and others:** agriculture, natural resources, environment, energy, transport, and tourism

The PCBS has already conducted several surveys in the areas mentioned in the master plan.

In 1997, the PCBS conducted the first Palestinian population and establishment census. What makes this census interesting is that it is the first time it is done in the West Bank and Gaza since 1967. The last census was conducted by the Israelis in 1967 when the West Bank and Gaza were under the Israeli military occupation.

The results of the census were very useful in furnishing basic demographic indicators at the locality level as well as updating the sample frame for the sample surveys conducted by the PCBS.

The most recent surveys conducted by the PCBS are: (a) the time use survey; (b) the ownership of information technology tools such as computer ownership, Internet connections, etc.

For further information about the basic results of the recent Palestinian population and establishment center among other results of sample survey, you can visit the web site of the PCBS at: <http://www.pcbs.org>. You can also order some specific information by e-mail: [pcbs@pcbs.pna.org](mailto:pcbs@pcbs.pna.org). or write to: Department of User Services, Palestinian Central Bureau of Statistics, P.O. Box 1647, Ramalla, Palestine. Tel: +972-2-298 6340, fax: +972-2-298 6343.

**SPAIN** (from Carlos Ballano)

The **Survey on Disability, Deficiencies and Handicaps (SDDH)** was carried out for the first time in Spain in 1986. One of its main advantages was the possibility to evaluate and identify the different types of shortcomings the Spanish population is suffering from, according to the International Classification of Impairments, Disabilities and Handicaps (ICIDH) of the World Health Organization (WHO).

Although in 1986 this research was pioneering, it now needs updating. Between April and June of this year, a new survey was carried out on Disabilities, Deficiencies, and Health Conditions: it

was considerably improved in order to satisfy the increasing demands for information on the disabilities themselves and on the ever more comprehensive related issues, such as risk factors, ways of life, utilization of social and health services, and accidents.

The scope of this survey is the population living in households, and it aims at assessing the number of people suffering from some disability, at becoming acquainted with the deficiency that gives rise to their disability, and the causes that might have led to the disability in question. It also looks into the possible socio-health differences between those people enduring a disability and the general population.

For the selection of the sample, a stratified two-stage sampling was applied, and for each province a separate sample has been designed to enable the publication of provincial data. The first-stage units are the census sections (geographic areas); the second-stage units are the households. The survey applies to all those habitually living at the selected households; that is, no subsampling was done for the second-stage units.

A questionnaire on health also was introduced. It supplies information on risk factors that have repercussions on the population's general health conditions and its relation to the disabled population. This questionnaire is completed by a person randomly selected among those living at the selected household.

To achieve these objectives, the sample size was about 79,000 households distributed among 3,000 census sections (geographic areas). The first results are expected to be available next April.

For more information, contact Montserrat Herrador Cansado, Jefa del Area de Metodologia, Encuestas Economicas, Instituto Nacional de Estadistica, Dpacho, C-726, tel: 34-91-5839244, fax: 34-91-5839484, e-mail: [herrador@ine.es](mailto:herrador@ine.es).

**UNITED STATES** (from Daniel Kasprzyk)

Statistical agencies in the United States statistical system often maintain lists of published and unpublished research reports. The purpose of maintaining such lists is to promote the sharing of

work experience and knowledge reflected in the reports. Often the materials available are "works in progress". Access to the Internet has improved the dissemination of information about the existence of these reports. Several U.S. statistical agencies identified below make working papers and research reports available to the public through the Internet as well as in hard copy format.

The **U.S. Bureau of Labor Statistics (BLS)** maintains a collection of research papers by BLS authors at <http://stats.bls.gov/orehome.htm>. Copies of published and unpublished papers can be downloaded or obtained by mail. The following series of papers are available at the BLS site:

- The Annotated Bibliography of Statistical Papers, maintained by the Office of Survey Methods Research, contains papers written by BLS statisticians and behavioral scientists. Included in the bibliography are papers presented at the annual Joint Statistical Meetings and other conferences, as well as papers appearing in journals and the BLS Statistical Notes series.
- The BLS Economic Working Paper Series is a collection of research papers authored by senior economists within various offices of the Bureau of Labor Statistics. The Office of Employment Research and Program Development, the Compensation Research and Program Development Group, and the Division of Price and Index Number Research maintain this series. The purpose of the BLS Working Paper Series is to circulate research findings to interested readers within and outside the BLS as a means of encouraging discussion prior to publication in academic journals.
- In January 1994, a completely redesigned Current Population Survey (CPS), the U.S. Labor Force Survey, was put into full-scale production use. Eight years of planning and extensive research led up to this transition from the old survey to the new survey, which also uses computer assisted data collection methods. The Current Population Survey Redesign Bibliography, maintained by the Office of Survey Methods Research, is a collection of research papers written by BLS and Census Bureau statisticians and behavioral scientists on all phases of the redesign of the CPS.

The **U.S. Bureau of the Census** world wide web ([www.census.gov](http://www.census.gov)) makes available several series of research reports on a variety of topics relevant to improving its censuses and surveys. The Research Report Series covers research in statistical methodology and estimation. The Working Papers in Survey Methodology Series cover questionnaire design research and methodological studies to identify causes of nonsampling errors and to evaluate alternative design solutions. The Ethnographic Exploratory Research Report Series discusses the ethnography of certain patterns of behavior in U.S. socio-cultural groups that may affect census coverage. The Ethnographic Evaluation of the 1990 Decennial Census Reports discuss behavioral causes and correlates of undercount in the decennial census among Blacks, Hispanics, American Indians, recent immigrants from Asia, and undocumented immigrants primarily from Latin America and Haiti.

A listing of papers from these series is available, organized by author (<http://www.census.gov/srd/www/byname.html>) or year (<http://www.census.gov/srd/www/byyear.html>). Abstracts are available for most of the papers, and Adobe PDF or PostScript files can be downloaded from the site.

The Survey of Income and Program Participation (SIPP), a longitudinal survey of households in the United States, maintains its own working paper series dealing with methodological, measurement, and analytical issues. The SIPP Working Papers can be found at <http://www.sipp.census.gov/sipp/pubsmain.htm>.

The **U.S. National Center for Education Statistics** also maintains an electronic catalogue of its publications on the Internet at their web site, <http://nces.ed.gov/pubsearch>. Research papers relating to survey methods and measurement issues in the conduct of surveys of schools and households can be found on this site by referencing working papers in the catalogue.

The **Committee on National Statistics (CNSTAT)**, a division of the Commission on Behavioral and Social Sciences and Education within the National Academy of Sciences, maintains a web site that provides current project information, expert panel membership, and often draft research papers developed for workshops and meetings. CNSTAT serves to contribute to a better understanding of

important national issues by working to improve the statistical methods and information on which public policy decisions are based. Recently, for example, CNSTAT convened a two-day workshop to discuss ways to advance the goals of exploiting the research potential of microdata while preserving confidentiality. Papers from this workshop can be obtained by visiting the CNSTAT web site: <http://www4.nas.edu/cbsse/cnstat.nsf> and then clicking on projects, current projects, and the workshop title.

For more information, contact Daniel Kasprzyk by telephone at: (202) 219-1588, or by fax at: (202) 219-1325.



**The Second International Conference  
on Establishment Surveys  
June 17-21, 2000**

The Second International Conference on Establishment Surveys (ICES-II) will be held June 17-21, 2000, in Buffalo, New York, at the Adams Mark Hotel. Since the first ICES was held in 1993, many new techniques have been implemented by practitioners around the globe. With the new millennium upon us, it is time for a forward look at methods for surveying businesses, farms, and institutions. ICES-II will contain invited and contributed paper sessions, software demonstrations, and short courses. The preliminary program can now be seen on our web site. A hardcover volume of the invited papers — as well as CD-ROMs of the invited and contributed papers — will be produced after the conference.

A competition soliciting proposals for invited paper sessions drew an excellent response. From the submissions about 30 sessions were selected, representing authors in the statistical and economic communities from around the world. Topics to be presented at the conference include: the use of cognitive methods in establishment surveys; statistical graphics; Poisson sampling; coordinating sampling between and within surveys; strategies for editing and imputation; trend estimation; generalized systems for processing and for estimation; linking longitudinal business and household data; mail and web-based data collection; outliers; business registers; variance estimation with imputed data; seasonal adjustment; coverage in school sampling frames; business metadata; the use of administrative records; and the measurement of commodity flows. Contributed papers and software demonstrations have also been solicited.

Registration forms and more detailed information can be obtained on our web site at [www.eia.doe.gov/ices2/index.html](http://www.eia.doe.gov/ices2/index.html).

General questions about the conference can be addressed to John G. Kovar at [kovar@statcan.ca](mailto:kovar@statcan.ca) or by calling +1(613) 951-8615. Questions about the contributed paper sessions should be addressed to Pat Cantwell at [patrick.j.cantwell@ccmail.census.gov](mailto:patrick.j.cantwell@ccmail.census.gov) or by calling +1(301) 457-8105. Information about the software

demonstrations should be addressed to Claude Poirier at [poircla@statcan.ca](mailto:poircla@statcan.ca) or by calling: +1(613) 951-1491.

Visit our web page at  
[www.eia.doe.gov/ices2/index.html](http://www.eia.doe.gov/ices2/index.html).

**Workshop on Labor Force Surveys  
in Libourne (France)  
at the CEFIL, the IASS Secretariat  
July 24-28, 2000**

**Scientific Committee**

President: Ian Macredie (Statistics Canada)  
Vice-president: Georges Lemaitre (OECD)

**Members (or their delegates)**

K.G. Abraham (BLS, USA), F. Alvarez (INE, Spain), H. Charlier (Eurostat), L. Diop (AFRISTAT), J.L. Faure (INSEE, France), M. Haworth (ONS, UK), D. Kasprzyk (IASS, USA), G. Lemaitre (OECD), F. Mehran (ILO), J. Witkowski (CSO, Poland)

**Committee of Organization**

President: Michel Boëda (CEFIL, France)  
Vice president: Benoît Riandey (IASS Executive Director), e-mail: [riandey@ined.fr](mailto:riandey@ined.fr)

**Background**

Several designs of Labor Force Surveys (LFS) among households coexist in the developed countries. Statistics Canada and the BLS in USA carry out a one week monthly survey. Eurostat chose the continuous survey as its structure target in the European Union. Some countries have already reached it (U.K., Belgium, Greece, Ireland, Netherlands, Spain, etc); as others, France is working on the implementation of the new continuous survey and will leave the one month yearly survey.

Some transition countries have already experimented this kind of LFS. In developing countries, the Labor Force surveys have to explore other subjects, such as the informal employment, etc.

## Objectives

What sampling design and estimation procedures are efficient for infra-annual analysis of activity or unemployment? What design is optimal for combining structural and infra-annual analysis?

In addition, users often need estimates on local fields on Labor Market. Small area estimations give tools very useful for ILO estimates, especially when auxiliary information can be drawn from administrative registers. Following the conference in Riga (August 2000), it is worth initiating new implementation of these techniques, concentrated on the ILO topics. The CEFIL workshop might be a frame for presentations of concrete results from these experiments.

To sum up, **three objectives** for this workshop:

- Confrontation of experiences of various continuous Labor Force Surveys among experimented and new users.
- Discussion of the appropriate Designs of LFS in transition countries: what criteria? what conclusions?
- What conclusions for developing countries, particularly in large countries?

## Attendees

Maximum 70 persons. About 40 from OECD countries, 15 from developing countries, 15 from transition countries.

## Selection

If more than 70 persons intend to attend the workshop, the Committees will have to select the applicants with priority given to their experience or interest on the topic.

## Languages

English and likely simultaneous translation into French.

## Accommodations: A New Opportunity: The CEFIL in Libourne

The INSEE has opened a new International Training Center for statisticians in Libourne, the

CEFIL, just between Bordeaux and Saint-Émilion (known for its famous wine).

There, the IASS benefits from new opportunities. This new Center, managed by Mr. Behmoiras, receives workshops of 70 people and seminars. It offers rooms, computers, translation equipment and the excellent and very inexpensive CEFIL private hotel (about US \$15 a night).

## Transport

- Airport in Bordeaux.
- Train TGV (High Speed Train) from Paris to Libourne or to Bordeaux.

## Fees

Applicants pay their airfare and (low-cost) accommodation.

## Contacts

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E-mail: [macrian@statcan.ca](mailto:macrian@statcan.ca)
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~~~~~

### Conference on Sampling in French Brussels, June 21-24, 2000

President of Organization Committee:  
Jean-Jacques Dreesbeke  
E-mail: [psemerar@ulb.ac.be](mailto:psemerar@ulb.ac.be)  
Internet: <http://www.ulb.ac.be/soco/lmtd/sondage2000/index.html>

~~~~~

**Short Courses at the CEFIL  
in French  
Libourne (France)  
June 26-30, 2000**

These short courses are offered for colleagues from developing countries. For information, contact Christophe Lefranc at [christophe.lefranc@insee.fr](mailto:christophe.lefranc@insee.fr).



INTERNATIONAL ASSOCIATION  
OF SURVEY STATISTICIANS



*The  
Survey  
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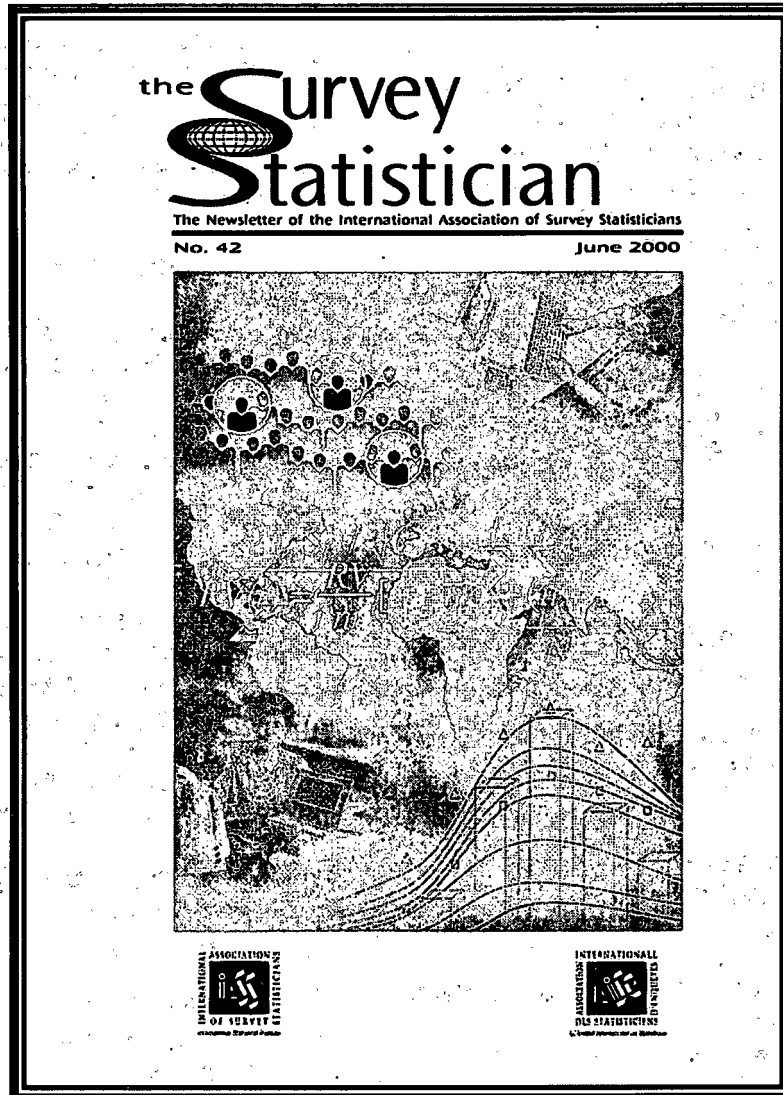
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# Look for the New and Improved Survey Statistician in 2000

**T**he *Survey Statistician* will celebrate the start of the new millenium by introducing a new cover page, enhancing some of the existing sections, and adding a new section. The international nature of the newsletter will be emphasized through a new section on "International Flavors" with material that may or may not be statistically oriented. This section will include a variety of topics, such as food recipes, cartoons, poems or quotes. The purpose of this section is to bring the member countries closer to each other through lighter types of material.



The success of this section will depend directly on the active participation of the IASS members. Please send your comments, and/or suggestions for material via e-mail to [MOHADJL1@Westat.com](mailto:MOHADJL1@Westat.com) or mail to:



**Leyla Mohadjer**  
Westat  
1650 Research Blvd., Room 482  
Rockville, MD 20850, USA

Those submitting food recipes need to take into account the international availability of the ingredients. Statistically oriented poems, cartoons, and quotes are preferred. Finally, attention should be given to copyrights of material submitted to *The Survey Statistician*.

**In Other Journals**

**Survey Methodology**

A Journal Published by Statistics Canada

Volume 25, Number 1, June 1999

**Contents**

In This Issue .....	1
H. KRÖGER, C.-E. SÄRNDAL and I. TEIKARI Poisson Mixture Sampling: A Family of Designs for Coordinated Selection Using Permanent Random Numbers .....	3
W. R. BELL and M. KRAMER Toward Variances for X-11 Seasonal Adjustments.....	13
J. DE HAAN, E. OPPERDOES and C. M. SCHUT Item Selection in the Consumer Price Index: Cut-off Versus Probability Sampling.....	31
P. DUCHESNE Robust Callibration Estimators .....	43
Y. TILLÉ Estimation in Surveys Using Conditional Inclusion Probabilities: Complex Design .....	57
N.G.N. PRASAD and J.N.K. RAO On Robust Small Area Estimation Using a Simple Random Effects Model .....	67
F.A.S. MOURA and D. HOLT Small Area Estimation Using Multilevel Models .....	73
M. CHATTOPADHYAY, P. LAHIRI, M. LARSEN and J. REIMNITZ Composite Estimation of Drug Prevalences for Sub-State Areas.....	81
S. RUBIN BLEUER and M. KOVAČEVIĆ Some Issues in the Estimation of Income Dynamics.....	87
P. F. TATE Utilising Longitudinally Linked Data from the British Labour Force Survey .....	99
S. GABLER, S. HAEDER and P. LAHIRI A Model Based Justification of Kish's Formula for Design Effects for Weighting and Clustering .....	105

**Journal of Official Statistics**

An International Review 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.

**Contents Volume 15, Number 1, 1999**

Organization of Small Area Estimators Using a Generalized Linear Regression Framework <i>David A. Marker</i> .....	1
A New Bias-reducing Modification of the Finite Population Ratio Estimator and a Comparison Among Proposed Alternatives <i>Abeidi S. Mussa</i> .....	25
A Comparison of Mail and E-mail for a Survey of Employees in U.S. Statistical Agencies <i>Mick P. Couper, Johnny Blair, and Timothy Triplett</i> .....	39
Extending the Definition of Survey Quality <i>Martin Collins and Wendy Sykes</i> .....	57
A New Method for Studying Verbal Interactions in Survey Interviews <i>Wil Dijkstra</i> .....	67
Bayesian Kriging of Wet Sulfur Deposition Data in Eastern North America <i>Mayer Alvo and Eva Voldner</i> .....	87
Applied Systems Analysis in Official Statistics <i>Klas Neumann</i> .....	103
<b>Book and Software Reviews</b> .....	115
<b>In Other Journals</b> .....	125
<b>Contents Volume 15, Number 2, 1999</b>	
Preface.....	127
International Response Trends. Results of an International Survey <i>Wim de Heer</i> .....	129

Causes and Effects of Nonparticipation in a Child Support Survey <i>I-Fen Lin, Nora Cate Schaeffer, and Judith A. Selzer</i> .....	143
Exploring the Relation of Economic and Political Conditions with Refusal Rates to a Government Survey <i>Brian Harris-Kojetin and Clyde Tucker</i> .....	167
Interviewers' Tactics for Fighting Survey Nonresponse <i>Ger Snijkers, Joop Hox, and Edith D. de Leeuw</i> .....	185
Interviewers' Calling Strategies on Face-to-Face Interview Surveys <i>Susan Purdon, Pamela Campanelli, and Patrick Sturgis</i> .....	199
The Effect of Incentives on Response Rates in Interviewer-Mediated Surveys <i>Eleanor Singer, John Van Hoewyk, Nancy Gebler, Trivellore Raghunathan, and Katherine McGonagle</i> .....	217
Monetary Incentives in U.S. Government Surveys <i>Carolyn Shettle and Geraldine Mooney</i> .....	231
A Laboratory Approach to Measuring the Effects on Survey Participation of Interview Length, Incentives, Differential Incentives, and Refusal Conversion <i>Robert M. Groves, Eleanor Singer, Amy D. Corning, and Ashley Bowers</i> .....	251
Strategies for Reducing Nonresponse in a Longitudinal Panel Survey <i>Heather Laurie, Rachel Smith, and Lynne Scott</i> .....	269
Analysis of Nonresponse Effects in the 1995 Survey of Consumer Finances <i>Arthur B. Kennickell</i> .....	283
Calibration as a Standard Method for Treatment of Nonresponse <i>Sixten Lundström and Carl-Eric Särndal</i> .....	305
A Note on Post-Stratification When Analyzing Binary Survey Data Subject to Nonresponse <i>Li-Chung Zhang</i> .....	329
Field Substitution and Unit Nonresponse <i>Vasja Vehovar</i> .....	335

Contents Volume 15, Number 3, 1999

The Seventh Morris Hansen Lecture Opening Remarks <i>Katherine K. Wallman</i> .....	351
The Future of Federal Statistics in the Information Age <i>Norman M. Bradburn</i> .....	353
Discussion <i>TerriAnn Lowenthal</i> .....	367
Towards Systems of Social Statistics - Some Principles and Their Application in Statistics Canada <i>Ivan Fellegi and Michael Wolfson</i> .....	373
Comparing Sample Surveys of Health with Official Population Statistics: Some Methodological Issues and Empirical Findings <i>Brian I. O'Toole, Richard P. Marshall, Ralph J. Schureck, and Matthew Dobson</i> .....	395
A Disk by Mail Survey of Pupils in Primary Schools: Data Quality and Logistics <i>Marion J.C. van Hattum and Edith D. de Leeuw</i> .....	413
Effects of Composite Weights on Some Estimates from the Current Population Survey <i>Janice Lent, Stephen M. Miller, Patrick J. Cantwell, and Martha Duff</i> .....	431
Should Stores Be Open on Sunday? The Impact of Sunday Opening on the Retail Trade Sector in New Brunswick <i>Benoît Quenneville, Pierre Cholette, and Marietta Morry</i> .....	449
<b>Book and Software Reviews</b> .....	465
<b>In Other Journals</b> .....	473

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## Statistics in Transition

Journal of the Polish Statistical Association

Volume 4, Number 2, June 1999

### Contents

From the Editor..... 139

### Articles

A. BARAN, E. DZIEDZIC and M. KACHNIEWSKA,  
Experimental Tourism Satellite  
Account for Poland ..... 143

B. BARCIKOWSKI, M. DYTMAN and M. FRONK,  
The Adjustment Statistics of Services to  
European Standards in Poland..... 165

G. BETTI, A Non-parametric Approach  
to Equivalence Scales ..... 181

D. DELCHEVA, Problems and Perspectives  
of Socio-Economic Analyses in the Statistical  
Information System..... 195

G. DIEVULIS, A Method of Contour  
Optimisation for Transport Flow Distribution ..... 201

J. JÍLEK, and B. JÍLKOVÁ, Experimental Flow  
of Funds Tables for the Czech Republic ..... 213

T. PANEK, Determinants of the Poverty  
Sphere in Poland ..... 229

M. SZREDER, Use of Prior Probabilities  
in Bayesian Inference ..... 245

J. WYWIAL, Generalisation of Singh and  
Srivastava's Sampling Schemes Providing  
Unbiased Regression Estimators ..... 259

I. ZAGOZDZINSKA, Companies with EU Capital  
in Poland in the Years 1993 – 1996 ..... 283

### Book Reviews

Nonresponse in Household Interview Surveys,  
Robert M. Groves, Mick P. Couper, John Wiley &  
Sons, Inc., New York, 1998 (J. Kordos) ..... 293

The Analysis of Household Surveys; A  
Microeconometric Approach to Development  
Policy, Angus Deaton, The Johns Hopkins  
University Press, Baltimore and London,  
1998 (A. Szulc)..... 299

## Reports

The 7<sup>th</sup> Vilnius Conference on Probability Theory  
and Mathematical Statistics and 22<sup>nd</sup> European  
Meeting of Statisticians (A. Plikusas) ..... 303

Polish Population Review – last ten issues  
(E. Fratczak and L. Nowak) ..... 309

Scientific Conferences of Ukrainian Statisticians -  
from National to International  
Scales (O. Holets) ..... 319

### Economic and Social Trends in Transition Countries

Basic Trends in the Economies of CEFTA Group  
Countries (M. Bienkowska, K. Radzikowska  
and E. Szyndler) ..... 321

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