FROM THE EDITOR

This issue of the journal contains seven articles, four of which address matters classified to the first section, *Sampling methods and estimation,* while the other three fall under the second category, *Research articles*. These sections are complemented by a relatively detailed report of the Small Area Estimation conference (SAE 2014) that took place in Poznan at the beginning of September. There is also the *Book review* section treating of a looked-for type of book by Vijay Verma, devoted to sampling of elusive populations in the context of child labour studies.

As a kind of announcement, there are few things worth making a note of here. The first relates to the aforementioned SAE 2014 conference. Namely, due to a big interest in the conference papers and as a response to the suggestions of several prominent participants of the conference, there is a joint special issue of the *Statistics in Transition new series* and the *Survey Methodology Journal* of Statistics Canada (edited by Mike Hidiroglou) under preparation. We have invited Raymond Chambers, Malay Ghosh, Graham Kalton, and Risto Lehtonen to provide leadership for this innovative venture as Guest Editors. We hope to contribute in this way to dissemination of the highest quality output of this important scientific event to the interested audience around the world.

The other thing concerns a technical improvement in accessing the journal before its final version is being made available − in both printed and online forms − due to introducing an *Early View* option, facilitating access and interaction between the editorial office and the authors, and allowing for making some minor changes or corrections in the meantime. As a way of bringing authors closer to readers, we have decided to include − starting with this issue - brief notes on authors/biosketches with some basic information about them.

From organizational point of view, it also deserves to be mentioned that the new Editorial Board held its first meeting on the occasion of the SAE2014 conference in Poznan - the minutes of the meeting concludes this note.

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The first series of papers is opened by **Joseph W. Sakshaug's** and **Trivellore E. Raghunathan's** paper *Generating Synthetic Microdata to Estimate Small Area Statistics in the American Community Survey*. The authors propose a

solution to practically important issue caused by certain constraints being imposed on information - as regards its scope and form - needed in the context of local-level studies. Although, on the one hand, statistical agencies regularly collect data from small areas, they are prevented from releasing detailed geographical identifiers in public-use data sets due to disclosure concerns. On the other hand, data dissemination methods used in practice include releasing summary (aggregate) tables, suppressing detailed geographic information. Therefore, an alternative method for disseminating microdata with more geographical details than are currently being released in public-use data files is presented by the authors. Specifically, the method replaces the observed survey values with imputed or synthetic values simulated from a hierarchical Bayesian model. Confidentiality protection is enhanced because no actual values are released. The method is demonstrated using restricted data from the 2005-2009 American Community Survey. The analytic validity of the synthetic data is assessed by comparing small area estimates obtained from the synthetic data with those obtained from the observed data.

The paper by **Kajal Dihidar** is devoted to *Estimating Population Mean with Missing Data in Unequal Probability Sampling.* It discusses the nonresponse problem as a serious obstacle to the validity of estimates. The question how to deal with missing values is complicated by the fact that they are deemed impossible to recover. One way of exploring a possible lack of representativity in missing data is to estimate the response probabilities which are usually done by logistic regression. However, the drawback of this model is that it requires knowledge of the explanatory variables for all nonrespondents. One way is to estimate response probabilities by weighting adjustment technique without having the individual data of the nonrespondents. The author considers the doubtful nature of nonresponse regarding possible existence of relationship with any of the covariates, and general unequal probability sampling scheme for selecting respondents. This paper presents the modification of Bethlehem (2012) proposal for unequal probability sampling to obtain the unbiased estimators for population total/average of a variable of interest and variance estimator, and compares them with the usual estimators through numerical simulations.

In the paper *A Class of Two Phase Sampling Estimators for Ratio of Two Population Means Using Multi-Auxiliary Characters in the Presence of Non-Response* by **B. B. Khare** and **R. R. Sinha** both the asymptotic bias and mean square error, as well as minimum mean square error of the proposed class of estimators have been obtained. The optimum values of the sample at the first and the second phases along with the sub-sampling fraction of the non-responding group have been determined for the fixed cost and for the specified precision. The

efficiency of the proposed class of estimators has also been shown through the theoretical and empirical studies.

Sanjay Kumar Singh, **Umesh Singh** and **Manoj Kumar** in the paper *Bayesian Inference for Exponentiated Pareto Model with Application to Bladder Cancer Remission Time* discuss maximum likelihood and Bayes estimators of the unknown parameters. The expected experiment times of the exponentiated Pareto model have been obtained for progressive type-II censored data with binomial removal scheme. Markov Chain Monte Carlo (MCMC) method was used to compute the Bayes estimates of the parameters of interest. The generalized entropy loss function and squared error loss function have been considered for obtaining the Bayes estimators. Comparisons are made between Bayesian and maximum likelihood (ML) estimators via Monte Carlo simulation. The proposed methodology is illustrated for real data.

The *Research articles* section begins with **Anna Czapkiewicz's** and **Beata Basiura's** paper *The Position of the WIG Index in Comparison with Selected Market Indices in Boom and Bust Periods.* Its main objective is exploration of differences between the rank of the Polish stock market in the boom and the bust cycles. The daily stock market returns data for the twenty three major international indices from Europe, America and Asia are used for comparing two boom and two bust periods. The correlation coefficient obtained from Copula-GARCH model is a measure of similarity between the considered indices. The cluster analysis carried on for these series (in the boom and bust the cycles) allows us to identify the differences in the market behaviour. The empirical results indicate that the relationship of the Polish index with other indices is stronger during the bust sub-periods than during the boom ones. Through cluster analysis it is shown that the Polish index occurs in one subset with the Hungarian, Czech Republic, Turkish and Russian indices, regardless of the studied sub-periods.

In the paper by **Atanu Bhattacharjee** and **Dilip C. Nath,** *Joint Longitudinal and Survival Data Modelling: An Application in Anti-Diabetes Drug Therapeutic Effect,* the longitudinal and survival analyses are shown to be useful tools in the exploration of drug trial data. In both cases the challenge is to deal with correlated repeated observations. Here, the joint modelling for longitudinal and survival data has been carried out via Markov Chain Monte Carlo (MCMC) method in type 2 diabetes clinical trials to compare different combinations of drugs, viz. Metformin plus Pioglitazone and gliclazide plus pioglitazone. It has been found relatively easier to implement this model with Winbugs software, and the results were computed and compared with software R. In both types of the

analyses it has been found that no estimates of treatment appear to have significant effect on the evolution of the matter of HBA1c, neither on the longitudinal part nor on the survival one. The Bayesian approach has also been considered as an extended tool with classical approach for estimation of clinical trial data analysis.

Henryk Gurgul's and **Pawel Zajac's** paper *The Impact of Alterations in the Local Insolvency Legislation on Business Bankruptcy Rates in Poland* analyses the effect of the major bankruptcy code novelization (that was enacted in the second quarter of 2009) on the number of insolvencies in Poland, using 'before-after' comparison. To this aim, a series of econometric models has been employed to analyze changes in bankruptcy rates using quarterly data for the period 2003-2013. Contrary to the expectations of lawmakers, while controlling for the variety of macroeconomic factors affecting insolvency rates, the authors conclude that the aggregate bankruptcy rates significantly increased after implementation of the new code (novelization of 2009). One of the reason is that entrepreneurs often do not use bankruptcy as a rational business formula due to its negative connotation in the colloquial language, and as a result they often start respective proceedings when it is too late to save their businesses. However, authors admit that this conclusion is pending for more detailed future assessment of the impact taking into account the effect of differences in firms' size and business sector on their failure rates.

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<div align="center">*Minutes* of the Meeting of the SiTns' Editorial Board</div>

Taking an exceptional opportunity provided by the fact that the overwhelming majority of members of the journal's new Editorial Board members attended the Small Are Estimation (SAE2014) conference in Poznan, an occasional meeting was organized by the SiTns Editor on the eve of the conference (i.e., on the 2nd of September). The following EB Members participated in the meeting: **Czesław Domanski, Malay Ghosh, Graham Kalton, Jan Kordos** *(Founder Editor),* **Janusz Witkowski, Janusz L. Wywial,** and the **Editor**.

At its outset, the Editor addressed some recent challenges and visions for possible improvements − such as moving to four issues per year, introducing an online *Early View* issue, increasing visibility of the journal, and multi-path efforts being under way for including the journal in the monitoring systems of the prestigious indexation bases toward obtaining the appropriate *impact factor(s).* While sharing the journal's editorial policy and tasks being currently realized (by the Editorial Office), the EB Members provided several insightful observations

and useful recommendations, which will underlay our efforts aimed at excelling the journal for making it increasingly attractive and needed for our key partners − potential authors, peer-reviewers and readers − and for the community of statisticians world-wide. The following suggestions are worthwhile mentioning here as accepted by all the EB Members:

- Janusz Witkowski stressed need to increase the visibility and accessibility of the journal and, as the President of the Central Statistical Office − the main sponsor of the journal − supported initiatives toward its greater international scope and rank in the global professional environment. Special issues, such as planned collection of papers based on the SAE 2014 conference presentations, would be a good means to achieve such goal.

- Graham Kalton indicated the need to have more research-based publications − meant as giving greater preferences to articles presenting innovative applications of statistical methods in empirical research, and/or discussing statistical tools for such purposes. During supporting discussion further arguments were provided for bringing statistics closer to policy application (*policy research* articles, devoted, for instance, to policy and program evaluation), and the problem-solving implications were emphasized too. He also pointed to organizing special issues, as a strategy effective also in this context, illustrating this approach by one being currently under preparation (see *Call for papers* published in the last issue of the SiTns − special issue devoted to "The Measurement of Subjective Well-Being in Survey Research").

- Malay Ghosh, who seconded this line of editorial policy, suggested to introduce a section *Review paper* on a systematic basis, as a part of at least every other issue of the journal. It should be devoted to comprehensive discussion of the current state of selected areas of statistical research, with emphasis on new and important topics.
  In addition to such a review, it was also suggested that the *Book review* section should be a part of each issue too, to either complement the former or be used as its substitute.

- Czeslaw Domanski, the President of the Polish Statistical Association - under the aegis of which the journal is being issued − emphasized the unique role played by the journal as a platform for integration of the high level professionals across disciplines, world-wide.

- Janusz Wywial, commenting on the thematic profile of the journal, indicated the need of flexibility in this aspect, including papers on rarely presented matters, such as related for instance, to certain audit and finance statistics.

- Jan Kordos, supporting the suggestions, reflected a bit on the historical development of the journal, with optimist conviction of its further development in terms of quality and usability.

On behalf of the Journal and its Editorial Office, the Editor expressed the commitment to make all these observations, suggestions and recommendations the important input to efforts aimed at excelling the journal in all the aspects of its functioning as an organ serving professionals, statisticians and other readers from over the world.

Wlodzimierz Okrasa
Editor