FROM THE EDITOR

A set of eight articles that constitute this issue is organized, as usual, in three-part arrangement: *Sampling Methods and Estimation* (three articles)*, Research Articles* (two articles)*,* and *Other Articles* (three articles). They are produced by sixteen authors from different countries and continents. This gives a sense of the broadness of the journal in terms of its topical and geographical scope.

It starts with an article by **Elkasabi M. A.**, **Heeringa S. G.**, and **Lepkowski J. M.**, entitled ***Joint Calibration Estimator for Dual Frame Surveys*** in which a new Joint Calibration Estimator (JCE) is proposed. According to the authors, it has better performance when the auxiliary variables can fully explain the variability in the study variables or at least when the auxiliary variables are strong correlates of the estimation variables. It is asymptotically design unbiased conditional on the strong relationship between the estimation variable and the auxiliary variables employed in the calibration. In contrast to the standard dual frame estimators, the JCE does not require domain membership information and the effect of the randomly misclassified domains does not exceed the random measurement error effect. Therefore, the JCE tends to be robust for the misclassified domains if included in the auxiliary variables.

Swain A. K. P. C. and **Das M.** present ***Some Classes of Modified Ratio Type Estimators in Sample Surveys****,* with additive and multiplicative adjustments made to the simple mean per unit estimator. Also, classical ratio estimators are suggested to obtain more efficient ratio type estimators compared to the classical one. Their biases and mean square errors are obtained and compared with first order approximations. Specifically, it is shown that even without assuming restrictive assumptions associated with the linear regression estimator, the proposed modified ratio-type estimators are asymptotically as efficient as the linear regression estimators.

In the next article, ***Improved Separate Ratio and Product Exponential Type Estimators in the Case of Post-Stratification,*** **Hilal A. Lone** and **Rajesh Tailor** address the problem of estimation of finite population mean in the case of post-stratification. Improved separate ratio and product exponential type estimators in the case of post-stratification are suggested. The biases and mean squared errors of the suggested estimators are obtained up to the first degree of approximation. Theoretical and empirical studies have been done to demonstrate better efficiencies of the suggested estimators than other considered estimators. In particular, the suggested estimators are recommended for use in practice for

estimating the population mean when some conditions (discussed in the body of the text) are satisfied.

The *Research Articles* section opens **Nicholas T. Longford's** paper *Policy-Oriented Inference and the Analyst-Client Cooperation. An Example from Small-Area Statistics* which demonstrates that efficient estimation is not always conducive to good policy decisions because the established inferential procedures have no capacity to incorporate the priorities and preferences of the policy makers and the related consequences of incorrect decisions. A method that addresses these deficiencies is described along with an example of planning an intervention in a developing country's districts with high rate of illiteracy. In addition to exposing the deficiencies of the general concept of efficiency the example shows that the criterion for the quality of an estimator has to be formulated specifically for the problem at hand. In particular, it is shown that the established small-area estimators may perform poorly if the minimum mean squared error is an inappropriate criterion.

The problem of forecasting of prices of commodities is discussed by **Abhishek Singh** and **G. C. Mishra** in *Application of Box-Jenkins Method and Artificial Neural Network Procedure for Time Series Forecasting of Prices.* Focusing on prices of agricultural commodities which are considered especially difficult to forecast because they are not only governed by demand and supply but also by so many other factors which are beyond control (such as weather vagaries, storage capacity, transportation, etc.) the Authors employ to this aim time series models ARIMA (Autoregressive Integrated Moving Average) methodology given by Box and Jenkins. An example is provided for the case of forecasting prices of Groundnut oil in Mumbai. This approach has been compared with ANN (Artificial Neural Network) methodology. The results showed that ANN performed better than the ARIMA models in forecasting the prices. The reason for this may lay in the nature of the data which show chaotic behaviour and cannot be fully captured by the linear ARIMA model. Also, the neural network results conform to the theoretical proofs that a feed forward neural network with only one hidden layer can precisely and satisfactorily approximate any continuous function.

The last section contains three papers based on presentations given at the Multivariate Statistical Analysis conference held in Łódź, Autumn 2014. In the first paper **Tomasz Górecki**, **Mirosław Krzyśko** and **Waldemar Wołyński** discuss *Classification Problems Based on Regression Models for Multi-Dimensional Functional Data.* Data in the form of a continuous vector function on a given interval are referred to as multivariate functional data. These data are treated as realizations of multivariate random processes. The Authors use multivariate functional regression techniques for the classification of multivariate functional data along with illustration of application of the discussed approaches to two real data sets.

In **Radosław Pietrzyk's** and **Paweł Rokita's** paper *Stochastic Goals in Financial Planning for a Two-Person Household* addressed are two types of risk that are typically being taken into account in household financial planning. The first is life-long lasting risk and the other is financing related risk. Also variety of events associated with insurance are sometimes taken into account, e.g., health deterioration. However, there is no model addressing stochastic nature of household financial goals, and the problem of modelling goals themselves is not sufficiently explored yet. This article puts forward a proposition of working goal time and magnitude into a household financial plan accounting for their distributions in optimizing the plan. A two-person household model is used while the decision variables of the optimization task are consumption-investment proportion and intra-household investments, respectively.

In the last paper, *Robust Regression in Monthly Business Survey,* **Grażyna Dehnel** discusses the distorting effect that outliers (extreme values) can have on classical statistical methods that are optimal under the assumption of normality or linearity, with special reference to population surveys in areas of business, agricultural, household and medicine. In particular, the presence of extreme observations may adversely affect estimation, especially when it is carried out at a low level of aggregation. To deal with this problem, several alternative techniques of estimation which seem to be less sensitive to outliers have been proposed in the statistical literature. Author attempts to apply and assess some robust regression methods (*LTS, M-estimation, S-estimation, MM-estimation*) in the business survey conducted within the framework of official statistics.

The issue is complemented by a brief note about the authors.

Włodzimierz Okrasa
Editor