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This Volume of **REVSTAT: Volume 13, No. 3 - November 2015**, presents the following scientific articles:

FORECASTING MORTALITY RATE BY SINGULAR SPECTRUM ANALYSIS
Authors*: Rahim Mahmoudvand, Fatemeh Alehosseini* and *Paulo Canas Rodrigues.*

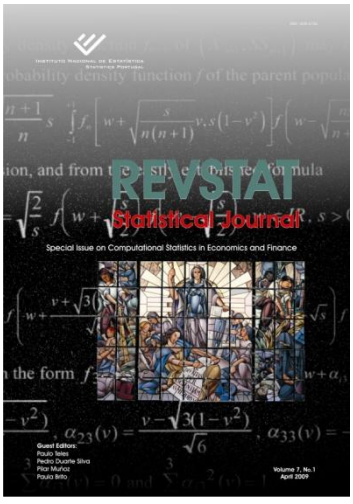
THE TAYLOR PROPERTY IN BILINEAR MODELS
Authors*: E. Gonçalves, C.M. Martins* and *N. Mendes-Lopes.*

FAILURE-TIME WITH DELAYED ONSET
Authors: *Man Yu Wong* and *D.R. Cox.*

MARGINAL HOMOGENEITY MODEL FOR ORDERED CATEGORIES WITH OPEN ENDS IN SQUARE CONTINGENCY TABLES
Authors: *Serpil Aktas* and *Song Wu.*

BAYESIAN AND NON-BAYESIAN INTERVAL ESTIMATORS FOR THE POISSON MEAN
Authors*: S. Nadarajah, M. Alizadeh* and *S.F. Bagheri*.

GENERALIZED LEAST SQUARES AND WEIGHTED LEAST SQUARES ESTIMATION METHODS FOR DISTRIBUTIONAL PARAMETERS
Author*: Yeliz Mert Kantar*.



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In 2003 the National Statistical Institute launched the scientific statistical journal REVSTAT-Statistical Journal, published in English two times a year, with a prestigious international Editorial Board, which came to substitute the Revista de Estatística [Statistical Review], published in Portuguese between 1996 and 2002.

This Volume of **REVSTAT: Volume 13, No. 3 - November 2015**, includes six articles. Their abstracts are presented below:

FORECASTING MORTALITY RATE BY SINGULAR SPECTRUM ANALYSIS
Authors*: Rahim Mahmoudvand, Fatemeh Alehosseini* and *Paulo Canas Rodrigues.*

Singular spectrum analysis (SSA) is a relatively new and powerful non-parametric time series analysis technique that has demonstrated its capability in forecasting different time series in various disciplines. In this paper, we study the feasibility of using the SSA to perform mortality forecasts. Comparisons are made with the Hyndman–Ullah model, which is a new powerful tool in the field of mortality forecasting, and will be considered as a benchmark to evaluate the performance of the SSA for mortality forecasting. We use both SSA and Hyndman–Ullah models to obtain 10 forecasts for the period 2000–2009 in nine European countries including Belgium, Denmark, Finland, France, Italy, The Netherlands, Norway, Sweden and Switzerland. Computational results show a superior accuracy of the SSA forecasting algorithms, when compared with the Hyndman–Ullah approach.

THE TAYLOR PROPERTY IN BILINEAR MODELS
Authors*: E. Gonçalves, C.M. Martins* and *N. Mendes-Lopes.*

The aim of this paper is to discuss the presence of the Taylor property in the class of simple bilinear models. Considering strictly and weakly stationary models, we deduce autocorrelations of the process and of its square and analyze the presence of the Taylor property in non-negative bilinear models considering several error process distributions, which are chosen according to the kurtosis value. For each one of these error process distributions, the class of parameterizations for the corresponding bilinear model satisfying Taylor property is obtained. The analysis of the relationship between the Taylor property and leptokurtosis in these bilinear processes allows to conclude that this property is a consequence of heavy tailed model distributions.

With the goal of extending this research to real valued bilinear models, a simulation study is developed in a class of such models with symmetrical innovations..

FAILURE-TIME WITH DELAYED ONSET
Authors: *Man Yu Wong and D.R. Cox.*

A special distribution is suggested for the analysis of survival data in which there is a long random delay before the onset of the terminal process. Estimation by the method of moments and by maximum likelihood is compared.

MARGINAL HOMOGENEITY MODEL FOR ORDERED CATEGORIES WITH OPEN ENDS IN SQUARE CONTINGENCY TABLES
Authors: *Serpil Aktas* and *Song Wu.*

A marginal homogeneity model tests whether the row and column distributions of a square contingency table have the same sample margins. However, for variables with ordered categories, the marginal homogeneity model does not take into account the ordering information, leading to significant loss of power. Score-based tests have been proposed for ordinal variables. In this paper, we extend the idea of scores and propose a new method based on the standardized scores to test the marginal homogeneity for ordered categories with open ends. Our simulation studies demonstrate that our proposed scores is more powerful than the usual scores.

BAYESIAN AND NON-BAYESIAN INTERVAL ESTIMATORS FOR THE POISSON MEAN
Authors*: S. Nadarajah, M. Alizadeh* and *S.F. Bagheri*.

Seventeen different confidence intervals for the Poisson mean are compared using simulations and a real data application. The interval estimators include the Wald interval estimator, the score interval estimator, the exact interval estimator, the bootstrap interval estimator, the equal tails credible interval estimator, Jeffreys prior credible interval estimator, the HPD credible interval estimator and the relative surprise credible interval estimator. Recommendations for choosing among the seventeen intervals are given for different sample sizes and different Poisson means.

GENERALIZED LEAST SQUARES AND WEIGHTED LEAST SQUARES ESTIMATION METHODS FOR DISTRIBUTIONAL PARAMETERS

Author*: Yeliz Mert Kantar*.

Regression procedures are often used for estimating distributional parameters because of their computational simplicity and useful graphical presentation. However, the resulting regression model may have heteroscedasticity and/or correction problems and thus, weighted least squares estimation or alternative estimation methods should be used. In this study, we consider generalized least squares and weighted least squares estimation methods, based on an easily calculated approximation of the covariance matrix, for distributional parameters. The considered estimation methods are then applied to the estimation of parameters of different distributions, such as Weibull, log-logistic and Pareto. The results of the Monte Carlo simulation show that the generalized least squares method for the shape parameter of the considered distributions provides for most cases better performance than the maximum likelihood, least-squares and some alternative estimation methods. Certain real life examples are provided to further demonstrate the performance of the considered generalized least squares estimation method.

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