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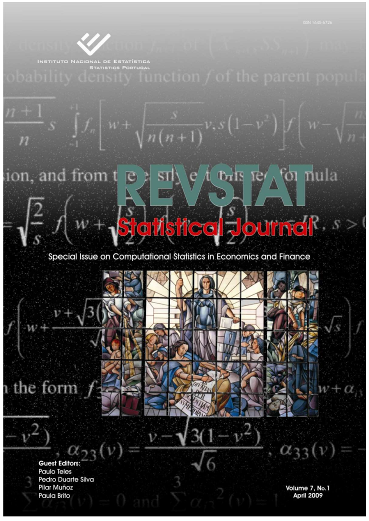

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This Volume of **REVSTAT: Volume 9, No. 3 - November 2011**, includes four articles. Their abstracts are presented below:

THE GARMAN–KLASS VOLATILITY ESTIMATOR REVISITED

Author: *Isaac Meilijson*.

The Garman–Klass unbiased estimator of the variance per unit time of zero-drift Brownian Motion, is quadratic in the range-based financial-type data *CLOSE – OPEN*, *MAX – OPEN*, *OPEN – MIN* reported on regular time windows. Its variance, 7.4 times smaller than that of the common estimator (*CLOSE – OPEN*)^2, is widely believed to be the minimal possible variance of unbiased estimators. The current report disproves this belief by exhibiting an unbiased estimator in which 7.4 becomes 7.7322. The essence of the improvement lies in data compression to a more stringent sufficient statistic. The Maximum Likelihood Estimator, known to be more efficient, attains asymptotically the Cramér–Rao upper bound 8.471, unattainable by unbiased estimators because the distribution is not of exponential type.

Beyond Brownian Motion, regression-fitted (mean-1) quadratic functions of the more stringent statistic increasingly out-perform those of *CLOSE – OPEN*, *MAX – OPEN*, *OPEN – MIN* when applied to random walks with heavier-tail distributed increments.

RAYLEIGH DISTRIBUTION REVISITED VIA EXTENSION OF JEFFREYS PRIOR INFORMATION AND A NEW LOSS FUNCTION

Authors: *Sanku Dey* and *Tanujit Dey.*

In this paper we present Bayes estimators of the parameter of the Rayleigh distribution, that stems from an extension of Jeffreys prior (Al-Kutubi (2005)) with a new loss function (Al-Bayyati (2002)). The performance of the proposed estimators has been compared in terms of bias and the mean squared error of the estimates based on Monte Carlo simulation study. We also derive the credible and the highest posterior density intervals for the Rayleigh parameter. We present an illustrative example to test how the Rayleigh distribution fits to a real data set.

ON THE ADMISSIBILITY OF ESTIMATORS OF TWO ORDERED GAMMA SCALE PARAMETERS UNDER ENTROPY LOSS FUNCTION

Authors: *N. Nematollahi* and *Z. Meghnatisi*.

Suppose that a random sample of size n_i is drawn from a gamma distribution with known shape parameter $\nu_i > 0$ and unknown scale parameter $\beta_i > 0$, $i = 1,2$, satisfying $0 < \beta_1 \leq \beta_2$. In estimation of β_1 and β_2 under the entropy loss function, we consider the class of mixed estimators of β_1 and β_2. It is shown that a subclass of mixed estimators of β_i beats the usual estimators $\overline{X}_i / \nu_i$, $i = 1,2$, and the inadmissible estimators in the class of mixed estimators are derived. Also the asymptotic efficiency of mixed estimators relative to the usual estimators are obtained. Finally the results are extended to a subclass of the scale parameter exponential family and the family of transformed chi-square distributions.

BAYESIAN ESTIMATION OF THE EXPONENTIATED GAMMA PARAMETER AND RELIABILITY FUNCTION UNDER ASYMMETRIC LOSS FUNCTION

Authors: *Sanjay Kumar Singh, Umesh Singh* and *Dinesh Kumar*.

In this paper, we propose Bayes estimators of the parameter of the exponentiated gamma distribution and associated reliability function under General Entropy loss function for a censored sample. The proposed estimators have been compared with the corresponding Bayes estimators obtained under squared error loss function and maximum likelihood estimators through their simulated risks (average loss over sample space).