

PIPGES · WEBINARS

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The video call link will be available at:

<https://tiny.one/galea-m>

Interinstitutional Graduate Program in Statistics (PIPGES) of Federal University of São Carlos with University of São Paulo promotes seminars groups (temporarily webinars, due to pandemic issues) of researches involving Probability, Statistics, Machine Learning etc. Our interest, among other things, is to stimulate the sharing of knowledge, as well as the connection between members of the program and researchers in other institutions.

Organizer

Michel H. Montoril, Department of Statistics,
Federal University of São Carlos.

UFSCar

ROBUST ESTIMATION IN FUNCTIONAL COMPARATIVE CALIBRATION MODELS VIA MAXIMUM LQ-LIKELIHOOD

A fully parametric estimation procedure is proposed for robust estimation of the structural parameter in a functional comparative calibration model, under normality. The proposed estimator is obtained, based on maximum Lq-likelihood approach, first replacing the incidental parameters by estimators depending on the structural parameter. The estimator, called MLqE, depends on a single distortion parameter q , which controls the balance between robustness and efficiency. If q tends to 1, the maximum likelihood estimator (MLE) is obtained. The estimation procedure can be implemented easily by a simple and fast re-weighting algorithm. For applying the method to practical and real-data scenarios, a data-based choice of an appropriate value of q is proposed. Consistency and asymptotic normality is established and the covariance matrix is given. The influence function is derived, to show the local robustness properties. Theoretical properties, ease of implementability and empirical results on simulated and real data show the satisfactory behavior of the MLqE and its vantages over the MLE in presence of observations discordant with the assumed model.

Joint work with Patricia Giménez and Lucas Guarracino, Universidad Nacional de Mar del Plata, Mar del Plata, Argentina

SPEAKER

Manuel Galea · Pontificia Universidad Católica de Chile

BIO

Manuel Galea, PhD, is Professor at the Department of Statistics at the Pontificia Universidad Católica de Chile, Santiago, Chile. He has extensive experience teaching probability, statistical inference and statistical methods. Dr. Galea is an Elected Member of the International Statistical Institute and has authored or coauthored numerous articles and one book on measurement error models and their applications in the comparison of measurement methods.

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