The Maximum Likelihood Estimation of a Longitudinal Data of Household Income in the Presence of Outlier Densities

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This work reports on the use of maximum likelihood function $L(\Theta)$ and the probability graphical method to estimate the location parameter for a mini metro-Neapolitan household income(X) with heterogeneous social-economic composition. The Easy_t software was used to _t the household income data to suggest the possible probability distribution(s) for the data. Some of the suggested distributions were taken as the functional form of the income's(X as a r.v) probability distribution and they were empirically solved using the maximum likelihood method of estimation. The estimate that are most consistent with the sample data were solved analytically based on the distribution function(s) suggested by easy_t software. We also compared the maximum likelihood estimates(MLE) obtained from each functions graphically using R-programing language