Indicators of Least Absolute Deviation's sensibility

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Abstract

This paper aims to propose indicators which make it possible to control the sensitivity of the robust method least absolute deviation (LAD), in the presence of single observation. Indeed, recent studies noted that this estimator has gained a relatively little favour in the robustness since data comprise outlier raised in X. Relaying on the sensitivity curve, we focus our study on the measure the sensitivity of LAD by the bias of estimate and by the importance of the leverage in this skew, expressed by its contribution to the total inertia of the sample. Simulations of Monte Carlo enabled us to retain two models: a sigmoid model and a model with threshold. The results of the estimates show that Least Absolute Deviation is sensitive to the points whose contribution is higher than 80%. We also verify this résulte for real data sets.

Mots clés : Outliers, estimation robuste, singularité, sensibilité, LAD.

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