



METHODS OF ESTIMATION FOR AUTOREGRESSIVE MODELS WITH OUTLIERS

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Abstract

Many regression estimation techniques have been extended to cover the case of dependent observations. The majority of such techniques are developed from the classical least squares. Some other robust approaches have been investigated in the regression case both on theoretical and empirical grounds. However, the behavior of these alternative methods with satisfactory performance in the regression context has not received equal attention in the context of time series. In this paper, we present a comparative simulation study for three robust alternatives to the least squares estimator under innovation and additive outliers. The results of this study indicate that, the reweighted least squares method should be considered as a robust alternative to the least squares method in the case of auto-regressive models with outliers.

Keywords and phrases: robust estimation, autoregressive models, innovation and additive outliers, least median of squares, trimmed least squares, reweighted least squares.

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