Estimation of the memory parameters of the fractionally integrated separable spatial autoregressive (FISSAR(1,1)) model : a simulation study.

Abstract

In this article, we implement the regression method for estimating (d1,d2) of the FISSAR(1,1) model. It is also possible to estimate d1 and d2 by Whittle's method. We also compute the estimated bias, standard error, and root mean square error by a simulation study. A comparison was made between the regression method of estimating d1 and d2 to that of the Whittle's method. It was found in this simulation study that the regression method of estimation was better when compare with the Whittle's estimator, in the sense that it had smaller root mean square errors (RMSE) values.

Keyword: Autoregressive process; Fractional integration; FISSAR; Spatial model; Separable process; Whittle's estimation.