

Application of Spatial Weighting Matrix of GSTAR by Using CLARANS Clustering on Farmer Exchange Rates in 32 Provinces in Indonesia

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Abstract

Generalized Space Time Autoregressive (GSTAR) model was used to model the time series data that had correlation inter-location (space time). In the stage of model identification, spatial weight on GSTAR model shown relations of inter-location, which were weight normalized cross-correlation, binary, uniform, and inverse of distance. Data grouping uses the CLARANS (Clustering Large Application based on Randomized Search) Cluster analysis method, which is a clustering method that involves spatial elements by determining the number of clusters at the beginning where each object has the opportunity to be selected as a cluster center. The data used was secondary data of Farmer Exchange Rates in 32 provinces for 71 months from year 2005 to 2013, which has been obtained from the Economic Indicators published by BPS every month. Model candidates that have been obtained of the data were GSTAR(1;1) and GSTAR(2;1;1).

Keywords

Space-time Model, GSTAR, CLARANS, Weight Matrix.

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