ESTIMATION OF INDEPENDENT MULTILE TIME SERIES WITH STRUCTURAL CHANGE

by

Ma. Shiela R. Data

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School of Statistics
University of the Philippines
Diliman, Quezon City

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ABSTRACT

We proposed a robust estimation procedure in a multiple time series with temporary structural change. Structural change is assumed to occur only in the autoregressive parameter of the independent time series. The procedure was evaluated through a simulation study and using the mean absolute percentage error, percentage of correctly identified structural change, and percent bias as measure of success. The procedure fitted a good model even for long time series (that usually exhibit structural change), near-nonstationarity, and with misspecification error.

Keywords: bootstrap; ARIMA model; structural change; forward search; multiple independent time series