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A Robust Bayesian Dynamic Linear Model to Detect Abrupt Changes in an Economic Time Series: The Case of Puerto Rico

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(Submitted on 25 Mar 2013)

Economic indicators time series are usually complex with high frequency data. The traditional time series methodology requires at least a preliminary transformation of the data to get stationarity. On the other hand, the Robust Bayesian Dynamic Model (RBDM) does not assume a regular pattern and stability of the underlying system but can include points of statement breaks. In this paper, we estimate the Consumer Price Index and the Economic Activity Index of Puerto Rico using a RBDM with observational and states variances to model the outliers and structural breaks in the time series. The results show the model detects structural changes in both series, some of them just before the beginning of a recession period in Puerto Rico's economy.

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