

# Bayesian inference for merged panel autoregressive model

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## Abstract

In this paper, a new time dependence model is developed for panel data that allow us to classify the merger and acquisition (M&A) methodology. In order to achieve the desired inferences of M&A theory, a merged panel autoregressive model (M-PAR) is proposed. Likelihood-based estimations and testing procedures are considered to explain the necessity of the M-PAR model. In Bayesian framework, it is noticed that conditional posterior probability of all model parameters appears in standard distribution form and estimators under different loss functions are measured to distinguish the consistency. To understand the significant contribution of the merged variables into the acquired variable in reference to M&A theory, a test is performed based on posterior probability. The performance of the proposed model is evaluated by simulation experiment and real data application of the Indian banking system.

## Keywords

Bayesian inference, Merger & acquisition series, Panel autoregressive model.

## References

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