

## Frequentist model averaging for threshold models

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**Abstract** This paper develops a frequentist model averaging approach for threshold model specifications. The resulting estimator is proved to be asymptotically optimal in the sense of achieving the lowest possible squared errors. In particular, when combining estimators from threshold autoregressive models, this approach is also proved to be asymptotically optimal. Simulation results show that for the situation where the existing model averaging approach is not applicable, our proposed model averaging approach has a good performance; for the other situations, our proposed model averaging approach performs marginally better than other commonly used model selection and model averaging methods. An empirical application of our approach on the US unemployment data is given.

**Keywords** Asymptotic optimality · Generalized cross-validation · Model averaging, Threshold model

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