Weighted Ranking Procedure for Combining Univariate Time Series Models

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ABSTRACT: *This paper extends the standard approach of combining forecast by proposing weights which are based on ranking the performance of forecast accuracy measures of models. The study pointed out that these weights became necessary due to the problems associated with the Akaike weights, equal weights and forecast from the 'best' model selected by the minimum AICc value. According to a selection criterion, five models were fitted to the simulated dataset with two different sample sizes, n=25 and n=200. The results revealed that the mean squared forecast error (MSFE) from the combined forecast of the proposed weights (weighted ranking procedure) outperformed all other approaches that were investigated in this study. Furthermore, the three combined forecast approaches consistently outperformed the forecast from the best model selected by the minimum AICc. Thus, the use of weighted ranking procedure is recommended in combining models.*

Keywords: *Weighted ranking, Akaike weight, model selection, forecast and information criteria*

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