

Autoregressive Spectral Averaging Estimator*

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Abstract

This paper considers model averaging in spectral density estimation. We construct the spectral density function by averaging the autoregressive coefficients from all potential autoregressive models and investigate the autoregressive spectral averaging estimator using weights that minimize the Mallows and jackknife criteria. We extend the consistency of the autoregressive spectral estimator in Berk (1974) to the autoregressive spectral averaging estimator under a condition that imposes a restriction on the relationship between the model weights and autoregressive coefficients. Simulation studies show that the autoregressive spectral averaging estimator compares favorably with the AIC and BIC model selection estimators, and the bias of the averaging estimator approaches zero as the sample size increases.

JEL Classification: C22, C51, C52

Keywords: Model averaging, Model selection, Spectral density estimator.

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