

# **Bootstrap-After-Bootstrap Prediction Intervals for Autoregressive Models**

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The use of prediction intervals based on the bootstrap-after-bootstrap is proposed for autoregressive (AR) models. Monte Carlo simulations are conducted using a number of univariate and bivariate AR models of orders 1 and 2, which include stationary, non-stationary and cointegrated processes. The major finding is that the bootstrap-after-bootstrap provides a superior small sample alternative to asymptotic prediction intervals. Asymptotic prediction intervals are often too narrow, substantially underestimating future uncertainty especially when the model is non-stationary or near non-stationary. Bootstrap-after-bootstrap intervals provide accurate assessment of future uncertainty under nearly all circumstances considered.

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