



1,089

Views

164

CrossRef citations to date

0

Altmetric

Primary Article

# How Useful Is Bagging in Forecasting Economic Time Series? A Case Study of U.S. Consumer Price Inflation

Atsushi Inoue & Lutz Kilian

Pages 511-522 | Published online: 01 Jan 2012

Cite this article <https://doi.org/10.1198/016214507000000473>

Sample our  
Mathematics & Statistics  
Journals



>> [Sign in here](#) to start your access  
to the latest two volumes for 14 days

Citations

Metrics

Reprints & Permissions

[Read this article](#)

Share

## Abstract

This article focuses on the widely studied question of whether the inclusion of indicators of real economic activity lowers the prediction mean squared error of forecasting models of U.S. consumer price inflation. We propose three variants of the bagging algorithm specifically designed for this type of forecasting problem and evaluate their empirical performance. Although bagging predictors in our application are clearly more accurate than equally weighted forecasts, median forecasts, ARM forecasts, AFTER forecasts, or Bayesian forecast averages based on one extra predictor at a time, they are generally about as accurate as the Bayesian shrinkage predictor, the ridge regression predictor, the iterated LASSO predictor, or the Bayesian model average predictor based on random subsets of extra predictors. Our results show that bagging can achieve large reductions in prediction mean-squared errors even in such

challenging applications as inflation forecasting; however, bagging is not the only method capable of achieving such gains.

KEY WORDS:

- Bayesian model averaging
- Bootstrap aggregation
- Factor model
- Forecast combination
- Forecasting model selection
- Pre testing
- Shrinkage estimation

Related Research Data

Bayesian and non-Bayesian methods for combining models and forecasts with applications to forecasting international growth rates (1993)

Source: Unknown Repository

Stock return predictability and model uncertainty

Source: Journal of Financial Economics

Bagging binary and quantile predictors for time series

Source: Journal of Econometrics

The Combination of Forecasts

Source: Journal of the Operational Research Society

Bayesian Model Averaging and Exchange Rate Forecasts

Source: International Finance Discussion Paper

Bootstrapping GMM estimators for time series

Source: Journal of Econometrics

A Heteroskedasticity-Consistent Covariance Matrix Estimator and a Direct Test for Heteroskedasticity



Time is research – publish today in

**Statistics and Data Science  
in Imaging**

**FIND OUT MORE »**

People also read

Recommended articles

Cited by  
164

Information for

- Authors
- R&D professionals
- Editors
- Librarians
- Societies

Opportunities

- Reprints and e-prints
- Advertising solutions
- Accelerated publication
- Corporate access solutions

Open access

- Overview
- Open journals
- Open Select
- Dove Medical Press
- F1000Research

Help and information

- Help and contact
- Newsroom
- All journals
- Books

Keep up to date

Register to receive personalised research and resources by email

 Sign me up

