Discussion: Does Model Complexity add Value to Asset Allocation? Evidence from Machine Learning Forecasting Models

Authors: Iason Kynigakis and Ekaterini Panopoulou

Discussant: Xiaoxia Ye (ULMS), June, 2019 © IAFDS
Outline

1. Quick summary

2. Strengths

3. Comments
This study compares 24 different return forecasting methods using mean-variance asset allocation framework.

The authors find evidence of added economic value relative to the equal-weighted or the historical average benchmark portfolios.

The added economic value is quantified in terms of performance fee: “a mean variance conservative (aggressive) investor with moderate leverage and no short selling, rebalancing quarterly, would be willing to pay up to 583 (963) basis points per year after transaction cost for incorporating machine learning return forecasts in the portfolio formation process.”
So, the basic take away message is a “YES” to the question asked in the title.
Strengths of the Paper

- A very comprehensive study: 24 different methods and 20 years of out-of-sample analysis
- Well-executed and clearly-presented
- The empirical findings are convincing and fit very well with practical consensus.
The length of the paper. 73 pages are a bit too much for journal submission.

- 20 pages are purely description of the existing models which I think can be put in an online appendix.

- The analysis of whether commodities add value to stock-bond portfolio seems distracting.

Fairness of the comparison: most (if not all) ML methods considered use information from other sources in the return forecasting, but the benchmarks use only historical returns information. So, it is not instantly clear whether it is the ML or the information other than historical returns adds value.

Some of the information used in ML is from macro-economic variables. We know these variables are subject to revision. Since the paper considers out-of-sample performance, I believe the revision issue has to be addressed to ease referees’ concerns.
Some of the information used in ML is from macro-economic variables. We know these variables are subject to revisions. Since the paper considers out-of-sample performance, I believe the revision issue has to be addressed to ease referees’ concerns.
A question about Fig 1 in the paper. The return scale of the bond index seems to be incorrect in the figure.
To make the paper more general and robust, I suggest including more indices to the study (10 indices for example).