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Regularization for quantile regression averaging: A new approach to constructing probabilistic forecasts

We introduce a regularized form of Quantile Regression Averaging (QRA), which utilizes the Least Absolute Shrinkage and Selection Operator (LASSO) to select the most informative point forecasts before combining them to yield probabilistic predictions. To evaluate the performance of the proposed LASSO-QRA (or LQRA) method we use the Kupiec test, the pinball score and the test for conditional predictive ability. We find that LQRA significantly outperforms 29 competitors and yields superior probabilistic forecasts of electricity prices from two distinct power markets. As such, it provides an efficient automated forecasting procedure, that does not require expert knowledge for selecting well performing point forecasters.