

## Automated Variable Selection and Shrinkage for Day-Ahead Electricity Price Forecasting

By Bartosz Uniejewski

### Abstract:

In day-ahead electricity price forecasting (EPF) variable selection is a crucial issue. Conducting an empirical study involving state-of-the-art parsimonious expert models as benchmarks, datasets from three major power markets and five classes of automated selection and shrinkage procedures (single-step elimination, stepwise regression, ridge regression, lasso and elastic nets), we show that using the latter two classes can bring significant accuracy gains compared to commonly-used EPF models. In particular, one of the elastic nets, a class that has not been considered in EPF before, stands out as the best performing model overall.