

Propositions

accompanying the dissertation

The Gains from Dimensionality

By

Didier Nibbering

1. The Survey of Professional Forecasters contains little information about irregular events in key variables of the US economy. (Chapter 2)
2. When time-varying parameters in a Bayesian vector autoregressive model are drawn from an infinite number of regimes in a Markov switching framework, the estimated relations between macroeconomic indicators of the US economy show both smooth and abrupt changes over time. (Chapter 3)
3. When the predictor set is large relative to the number of observations and the predictive power of each predictor is small, randomly selecting predictors is a simple and often not a bad thing to do. (Chapter 4)
4. Valid confidence intervals of the parameter estimates in a high-dimensional linear regression model with a sparse parameter vector, can be obtained by a scaled Moore-Penrose inverse of the covariance matrix of the regressors together with a bias correction. (Chapter 5)
5. The Dirichlet process prior enables the specification of a parsimonious multinomial choice model, without requiring a priori information about the specific clustering of the choice categories. (Chapter 6)
6. The lack of appropriate modelling techniques increasingly overtakes data scarcity as the determining factor of successfully answering many economic research questions.
7. As machine learning can help us improve economic forecasting, econometric methods may help us open the black box of machine learning techniques.
8. Economists should not be afraid to ask questions that cannot be answered without randomization.
9. Progress (in research) is often made by dropping assumptions.
10. With the increase of online higher education in the form of MOOCs, the relevance of traditional universities hinges on the ability to provide students with an environment that stimulates discussion, development of new ideas and critical thinking.
11. "Competing is exciting and winning is exhilarating, but the true prize will always be the self-knowledge and understanding that you have gained along the way." (Sebastian Coe)