# Anders Bredahl Kock — June 2020


**Contact Information**

Department of Economics
University of Oxford
Aarhus University
CREATES
St. Hilda's College

*Link to personal website*


**Citizenship** Danish

**Date of Birth** January 30th 1984

**Research Interests** High-Dimensional Models, Microeconometric Theory, Optimal Treatment Rules, Hypothesis Testing in High-Dimensional Models, Machine Learning, Multi-armed Bandits.

**Education**

**Aarhus University**, Aarhus, Denmark

Ph.D., Economics, November 2011

- Thesis Topic: *Forecasting and Oracle Efficient Econometrics*
- Advisors: Niels Haldrup and Timo Teräsvirta

**Appointments**

- Post.Doc. at Aarhus University 2011-2015.
- Assistant Professor at Aarhus University 2015-2016
- Associate Professor at Aarhus University, April 2016-
- Associate Professor at the University of Oxford and Fellow at St. Hilda's College, September 2017-

**Publications**

1. Partial Identification: Testing Many Moment (In)equalities via Lasso. *Joint with Mehmet Caner, Federico Bugni, and Soumendra Lahiri.* **Journal of Statistical Planning and Inference**, 2019.
2. Power in High-Dimensional Testing Problems. *Joint with David Preinerstorfer.* **Econometrica**, May 2019, Volume 87, Issue 3, Pages 1055–1069.
3. Uniform Inference in High-Dimensional Dynamic Panel Data Models With Approximately Sparse Fixed Effects. *Joint with Haihan Tang.* **Econometric Theory**, April 2019, Volume 35, Issue 2, Pages 295–259.
4. Asymptotically Honest Confidence Regions for High Dimensional Parameters by the Desparsified Conservative Lasso. *Joint with Mehmet Caner.* **Journal of Econometrics**, Volume 203, Issue 1, March 2018, Pages 143–168.
5. Oracle Inequalities, Variable Selection and Uniform Inference in High-dimensional Correlated Random Effects Panel Data Models. Accepted by **Journal of Econometrics**, Volume 195, Issue 1, November 2016, Pages 71–85.
6. Estimation and Forecasting of Large Realized Covariance Matrices and Portfolio Choice. *Joint with Marcelo Medeiros and Laurent A.F. Callot.* **Journal of Applied Econometrics**, Volume 32, Issue 1 January/February 2017, Pages 140–158.

7. Sharp Threshold Detection Based on Sup-norm Error rates in High-dimensional Models. *Joint with Mehmet Caner, Laurent Callot and Juan Andres Riquelme.* **Journal of Business and Economic Statistics**, Volume 35, 2017, Pages 250-264.

8. Oracle Inequalities for Convex Loss Functions with Non-Linear Targets *Joint with Mehmet Caner.* **Econometric Reviews**, Volume 35, Issue 8-10, 2016, pages 1753-1779.

9. On the Adaptive LASSO's Potential to Distinguish Between Stationary and Non-stationary Autoregressions. **Econometric Theory**, Volume 32, No 1, Feb 2016, pages 243–259.

10. Forecasting Macroeconomic Variables using Neural Network Models and Three Automated Model Selection Techniques. *Joint with Timo Teräsvirta.* Invited submission to **Econometric Reviews**, Volume 35, Issue 8-10, 2016, pages 1753-1779.

11. Oracle Inequalities for High Dimensional Vector Autoregressions. *Joint with Laurent A.F. Callot.* **Journal of Econometrics**, 2015, volume 186, issue 2, pages 325-344

12. Lassoing the Determinants of Retirement. *Joint with Malene Kallestrup-Lamb and Johannes Tang Kristensen.* **Econometric Reviews**, Volume 35, Issue 8-10, 2016, pages 1522–1561 (special issue on topics in high-dimensional econometrics).

13. Oracle Efficient Variable Selection in Random and Fixed Effects Panel Data Models, **Econometric Theory**, 2013, volume 29, issue 01, pp 115-152.

14. Forecasting Performance of Three Automated Modelling Techniques During the Economic Crisis 2007-2009. **International Journal of Forecasting**, 2014, pages 616–631, Vol. 30, Issue 3. *Joint with Timo Teräsvirta.*

15. Forecasting the Finnish Consumer Price Inflation Using Artificial Neural Network Models and Three Automated Model Selection Techniques, in **Finnish Economic Papers** (invited submission), 2013 , volume 26, issue 1. *Joint with Timo Teräsvirta.*

16. On the Oracle Property of the Grouped Adaptive LASSO for Vector Autoregressions. *Joint with Laurent A.F. Callot.* **Published in Essays in Nonlinear Time Series Econometrics**, 2014, edited by N. Haldrup, M. Meitz and P. Saikkonen, Oxford University Press.

17. Forecasting with Nonlinear Time Series Models. Handbook chapter prepared for **Oxford Handbook on Economic Forecasting**, edited by M.P. Clements and D.F. Hendry, 2011, Oxford University Press, Oxford. *Joint with Timo Teräsvirta.*

18. Forecasting with Universal Approximators and a Learning Algorithm, in **Journal of Time Series Econometrics**, 2011, Vol. 3: Iss. 3, Article 3.

## Revise and resubmit

- Functional Sequential Treatment Allocation. Joint with *David Preinerstorfer and Bezirgen Veliyev.* Revised for **Journal of the American Statistical Association**.

## Working Papers/Submitted

- Functional Sequential Treatment Allocation with Covariates. Joint with *David Preinerstorfer and Bezirgen Veliyev.* Submitted.
- Treatment Recommendation with Distributional Targets. Joint with *David Preinerstorfer and Bezirgen Veliyev.* Submitted.
- Optimal dynamic treatment allocation.*Joint with Martin Thyrsgaard.* Submitted
- High-Dimensional Linear GMM. *Joint with Mehmet Caner.* Submitted.

## Permanent working papers

- Oracle Inequalities for High Dimensional Panel Data Models. Permanent working paper as it was completely changed into "Oracle Inequalities, Variable Selection and Uniform Inference in High-dimensional Correlated Random Effects Panel Data Models", published in the **Journal of Econometrics**.

## Contributions to books

- Penalized Time Series Regression. Chapter in "Macroeconomic Forecasting in the Era of Big Data." Springer, 2019.

## Awards and Grants

- Multa Scripsit Award from **Econometric Theory**, 2019-20.
- Winner of 2017 award for best teacher at the Department of Economics, Aarhus University (elected by the student council). Only one award given per year. Nominated four out of five times I have taught the course.
- Nominated (along with four others) for best teacher at the Department of Economics, Aarhus University in 2016.
- AUFF Assistant Professor Starting Grant. Granted 2015. DKK 1,815,000, approximately 261,200 USD.
- Winner of 2013 award for best teacher at the Department of Economics, Aarhus University (elected by the student council). DKK 7,500, approximately USD 1,200. Only one award given per year.
- AUFF Ph.D. award of 2012 of DKK 50.000, approximately USD 8.800 (Aarhus University Research Council award for best Ph.D. thesis in social sciences in 2011)
- Nominated (along with four others) for best teacher at the Department of Economics, Aarhus University in 2012.
- Sapere Aude award, 2011/12 (Danish Independent Research Council young elite researcher). DKK 1,007,064, approximately USD 177,000.
- PostDoc scholarship (FSE) granted by the Danish Agency for Science, Technology and Innovation. Granted 2011. DKK 1,371,856, approximately USD 234,907.
- AUFF travel grant of DKK 37,000, approximately USD 6,000, for 2011.
- McKinsey Award for highest B.S. Grade Point Average of 2006 at the Department of Economics, Aarhus University.

## Teaching Experience

**Aarhus University**, Aarhus, Denmark

- Teaching *Mathematical Economics I*, Fall 2011, Fall 2012, Fall 2013, Fall 2015, Fall 2016 (undergraduate mathematics course).
- Teaching graduate course in High-Dimensional Statistics (taught at Department of Mathematical Sciences), Fall 2016.
- Teaching *Quantitative Research Methods* (introductory statistics) in the International business programme, Spring 2016.
- Teaching parts of *Applied Time Series Econometrics*, 2013.
- PhD course on High-Dimensional Econometrics, March 2015.
- Supervision of several bachelor theses in Spring 2012, 2015 and 2016.
- Supervision of several master theses, 2014-2016.
- Taught at SIDE 2017 Summer School on High-Dimensional Econometrics, joint with Mehmet Caner, Perugia, Italy.

**University of Oxford**, Oxford, UK

- MPhil 1st year econometrics.
- MPhil 2nd year econometrics.

## Refereeing

Advances in Statistical Analysis, Annales de l'Institut Henri Poincaré (B) Probabilités et Statistiques, Annals of Statistics, Biometrika, Bulletin of Economic Research, Computational Economics, Econometrica, Econometric Theory, Econometrics Journal, Econometric Reviews, Empirical Economics, Financial Markets and Portfolio Management, International Journal of Forecasting, Journal of the American Statistical Association, Journal of Applied Econometrics, Journal of Banking and Finance, Journal of Business and Economic Statistics, Journal of Econometrics, Journal of Financial Econometrics, Journal of Statistical Planning and Inference, Managerial and Decision Economics, Oxford Bulletin of Economics and Statistics, Scandinavian Journal of Statistics, Statistical Methods and Applications, Studies in Nonlinear Dynamics & Econometrics.

## Book reviews

- Stationary Stochastic Processes for Scientists and Engineers, by Georg Lindgren, Holger Rootzen and Maria Sandsten. Published in **The American Statistician**.