HYEONSEOK PARK

PERSONAL INFORMATION

Institute for Advanced Economic Research,
Dongbei University of Finance & Economics, 217 Jianshan Street,
Dalian, China
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CURRENT RESEARCH INTEREST

Econometric Theory, Time Series Econometrics, Optimal Transport, and High-dimensional Econometrics, and Distributionally Robust Optimization.

EDUCATION

Ph.D., Economics, University of Washington, USA	2016 - 2022
M.A., Economics, University of Korea, Republic of Korea	2013 - 2016
B.A., Economics, University of Korea, Republic of Korea	2006 - 2013

EMPLOYMENT

Assistant Professor, IAER, Dongbei University of Finance and Economics	2022 - Present

WORKING PAPERS

"Minimum Sliced Distance Estimation in Structural Models," with Yanqin Fan

Abstract: This paper develops a simple and robust method for the estimation and inference in structural econometric models based on sliced distances. Three motivating models considered are asset pricing/state-space models, aggregate demand models, and models with parameter-dependent support. In contrast to MLE and likelihood-based inference, we show that under mild regularity conditions, our estimator is asymptotically normally distributed leading to simple inference regardless of the possible presence of "stochastic singularity" such as in the asset pricing/state-space models and parameter-dependent supports such as in the one-sided and two-sided models. Furthermore, our estimator is applicable to generative models with intractable likelihood functions but from which one can easily draw synthetic samples. We provide simulation results based on a stochastic singular state-space model, a term structure model, and an auction model.

"Estimation and Inference on Granger Causality in a Latent High-dimensional Gaussian Vector Autoregressive Model," with Yanqin Fan and Fang Han, Revision Invited at Journal of Econometrics

Abstract: This paper develops estimation and inference methods for the transition matrices of a latent high-dimensional stationary Gaussian vector autoregressive process when the observed process is an increasing but otherwise unknown transformation of the latent process. Our estimator is based on rank

estimators of the large variance and auto-covariance matrices of the latent process. We derive rates of convergence of our estimator based on which we develop inference for Granger causality. Numerical results demonstrate the efficacy of the proposed methods. Although our focus is on the latent process, by the nature of rank estimators, all the methods developed directly apply to the observable process which is a stationary semiparametric high-dimensional Gaussian copula process. In technical terms, our analysis relies heavily on newly developed exponential inequalities for (degenerate) U-statistics under α-mixing condition.

PROFESSIONAL ACTIVITIES

Referee for: Journal of Econometrics

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Languages: English (fluent), Korean (native)

Computing: Matlab, R, Python, GAUSS