Edvard Bakhitov

Contact Information

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Education

May 2022 (Expected)	PhD Candidate in Economics, **University of Pennsylvania**
November 2015	Master of Economics, **National Research University Higher School of Economics**, Moscow Major: Financial Markets and Financial Institutions
September 2015	Master in Economics and Finance **University of Luxembourg**, Luxembourg *Double-Degree Program with Higher School of Economics* Thesis: "Negative Bond Rates and the Stock-Bond Disconnect: Disaster Risk Approach" | Advisor: Prof. Christos Koulovatianos
June 2013	Bachelor of Economics, **National Research University Higher School of Economics**, Moscow *Degree with Honours* | Major: Finance and Stock Market Thesis: "Basic Approaches to Modelling Bubbles in the Financial Markets" | Advisor: Prof. Marina Turuntseva

Honors, Scholarships, and Fellowships

Apr. 2016	University of Pennsylvania Fellowship
Nov. 2015	Best Master Thesis Price 2015 in Economics by the Economist Club Luxembourg and the University of Luxembourg's Faculty of Law, Economics and Finance
Sept. 2014	Luxembourg Ministry of Culture Scholarship (€5,000 + housing costs coverage)

Computer Skills

Basic Knowledge:	Stata, mySQL, Matlab, Julia, C++
Advanced Knowledge:	Python, R

Research Fields

Primary	Econometrics, Machine Learning
Secondary	Industrial Organization

Teaching Experience

Fall 2017	ECON 103: Statistics for Economists, teaching assistant for Dr. Suleyman Ozmucur
Spring 2018	ECON 102: Macroeconomic Theory, teaching assistant for Prof. Dirk Krueger
Fall 2018	ECON 104: Introduction to Econometrics, teaching assistant for Prof. Francis Diebold
Spring 2019	ECON 262: Market Design, teaching assistant for Prof. Amit Gandhi
Spring 2020	ECON 262: Market Design, teaching assistant for Prof. Amit Gandhi
Fall 2020	ECON 103: Statistics for Economists, teaching assistant for Prof. Karun Adusumilli
Spring 2021	ECON 103: Statistics for Economists, teaching assistant for Prof. Wayne Gao

Research Assistance

Spring 2018–Spring 2020 Research assistant for Prof. Amit Gandhi, Prof. Aviv Nevo, and Prof. Jing Tao,
Flexible Estimation of Discrete Choice Models using Aggregate Data

Research Papers

Frequentist Shrinkage under Inequality Constraints, working paper

This paper shows how to shrink extremum estimators towards inequality constraints motivated by economic theory. We propose an Inequality Constrained Shrinkage Estima- tor (ICSE) which takes the form of a weighted average between the unconstrained and inequality constrained estimators with the data dependent weight. The weight drives both the direction and degree of shrinkage. We use a local asymptotic framework to derive the asymptotic distribution and risk of the ICSE. We provide conditions under which the asymptotic risk of the ICSE is strictly less than that of the unrestricted extremum estimator. The degree of shrinkage cannot be consistently estimated under the local asymptotic framework. To address this issue, we propose a feasible plug-in estimator and investigate its finite sample behavior. We also apply our framework to gasoline demand estimation under the Slutsky restriction.

Causal Gradient Boosting: Boosted Instrumental Variables Regression, working paper

Recent advances in the literature have demonstrated that standard supervised learning algorithms are ill-suited for problems with endogenous explanatory variables. To correct for the endogeneity bias, many variants of nonparameteric instrumental variable regression methods have been developed. In this paper, we propose an alternative algorithm called boostIV that builds on the traditional gradient boosting algorithm and corrects for the endogeneity bias. The algorithm is very intuitive and resembles an iterative version of the standard 2SLS estimator. Moreover, our approach is data driven, meaning that the researcher does not have to make a stance on neither the form of the target function approximation nor the choice of instruments. We demonstrate that our estimator is consistent under mild conditions. We carry out extensive Monte Carlo simulations to demonstrate the finite sample performance of our algorithm compared to other recently developed methods. We show that boostIV is at worst on par with the existing methods and on average significantly outperforms them.