Kaveh Salehzadeh Nobari

Personal Details

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Citizenship British

Research Interests

Primary Econometric Theory, Financial Econometrics

Secondary Machine Learning, Financial Economics, Market Microstructure

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Education

Ph.D. Economics, Durham University, 2020

- Awards: Ph.D. Funding award by the Department of Economics and Finance
- Thesis: *Finite Sample Sign-Based Procedures In Linear And nonlinear Statistical Models: With Applications To Granger Causality Analysis*
- Supervisors: Professor. Abderrahim Taamouti, Dr. Xing Wang
- Thesis committee: Professor. Jose Olmo, Dr. Majid Al. Sadoon

M.Sc. Economics and Finance, Durham University, 2015

- Awards: Ranked 1st out of the entire M.Sc. Finance programmes (1st out of 650+ students), Ranked 1st out of the entire M.Sc. Economics and Finance programme (1st out of 30+ students)
- Honors: Submitted the 2nd best dissertation out of the entire M.Sc. Finance programmes (2nd out of 650+ students)
- Dissertation: *Explaining The Comovement Between European Market Indices Using High-Frequency Data*

M.A. International Financial Analysis, Newcastle University, 2013

- Honors: Ranked 2nd out of the entire programme, Submitted the 2nd best dissertation out of the entire programme (2nd out of 100+ students)
- Dissertation: *Financial Analyst's Report of Debenhams PLC*

B.A. (HONS) Accounting and Finance, Newcastle University, 2011

Job Market Paper

Dufour, J.-M., Salehzadeh-Nobari, K., Taamouti, A. *Exact point-optimal sign-based tests for predictive linear and nonlinear regressions,* Working Paper.

Short abstract: *We propose point-optimal sign-based tests for linear and nonlinear predictive regressions that are valid in the presence of heteroskedasticity of unknown form and persistent volatility, as well as persistent regressors and heavy-tailed errors. These tests are exact, distribution-free, and may be inverted to build confidence regions for the parameters of the regression function. A Monte Carlo study reveals that our procedures outperform classical tests.*

Working Papers

Salehzadeh-Nobari, K. *Pair-copula constructions of point-optimal sign-based tests for predictive linear and nonlinear regressions,* Working Paper.

Short abstract: *We extend the flexibility of the exact point-optimal sign-based tests by considering the entire dependence structure of the signs and building feasible test statistics based on pair copula constructions of the sign process. In a Monte Carlo study, we compare the performance of the proposed tests based on pair copula constructions by comparing its size and power to those of certain existing tests that are intended to be robust against heteroskedasticity. The simulation results maintain the superiority of our procedures to existing popular tests.*

Salehzadeh-Nobari, K. *Sign-based measures and tests of Granger causality,* Working Paper.

Short abstract: *We propose sign-based measures of Granger causality based on the Kullback-Leibler distance that quantify the degree of causalities. Furthermore, we show that by using bound-type procedures, Granger non-causality tests between random variables can be developed as a byproduct of the sign-based measures. The tests are exact, distribution-free and robust against heteroskedasticity of unknown form. We further suggest the VAR sieve bootstrap to reduce the bias and obtain bias-corrected estimators. A Monte Carlo simulation study reveals that the bootstrap bias-corrected estimator of the causality measures produce the desired outcome. Furthermore, the tests of Granger non-causality based on the signs perform well in terms of size control and power.*

Work in Progress

Muller, C., Salehzadeh-Nobari, K., Taamouti, A. *Executive constraints and stock volatility in MENA region,* Work in Progress.

Short abstract: *We study the impact of executive constraints on the volatility and the risk of listed MENA region firms. Using a two-step estimation approach, we first measure and test the impact of a proxy of executive constraints on the ratio of idiosyncratic volatility and subsequently examine the impact of executive constraints on the firms' performance. Finally, we assess the predictability power of executive constraints on the future returns and examine whether in the presence of predictability power, this measure is of economic value to an investor who makes capital allocation choices.*

Ma, X., Salehzadeh-Nobari, K. *Non-parametric estimation and inference of Granger causality measures for high-dimensional Markov chains,* Work in Progress.

Short abstract: *We propose Granger causality measures based on Kullback Information Criterion for stationary and non-stationary Markov chains. We then suggest consistent non-parametric estimators for these measures and establish the asymptotic normality of the said estimators. Finally, we propose a local smoothed bootstrap in finite sample to compute a bootstrap bias-corrected estimator. A Monte Carlo simulation study reveals that the bootstrap bias-corrected estimator performs well and the corresponding tests control and size and have good power properties in finite samples.*

Conference Presentations

CFE-CMStatistics (Seville, Spain, December 2016)

- Paper: *Point-optimal sign-based tests for stock return predictability*
- Session: Quantiles, predictability, and heavy-tailed distributions
- Chair: Richard Luger (Universite Laval)

The Econometric Society (Cotonou, Benin, July 2018)

- Paper: *Exact point-optimal sign-based tests for predictive linear and nonlinear regressions*
- Session: Prediction
- Chair: Hector Galindo-Silva (Pontificia Universidad Javeriana)

The Econometric Society (Rabat, Morocco, July 2019)

- Paper: *Pair-copula constructions of point-optimal sign-based tests for predictive linear and nonlinear regressions*
- Session: Econometrics
- Chair: Taoufik Bouezmarni (Universite de Sherbrooke)

Other Talks

Point-optimal sign-based tests for stock return predictability, Newcastle University. (Newcastle upon Tyne, UK, February 2017)

Teaching Experience

Winter–Spring	2017	Teaching Assistant, 2nd year undergraduate Introduction to Financial Econometrics
Fall	2017	Teaching Assistant, postgraduate (Taught) Fundamentals of Finance
Winter–Spring	2019	Teaching Assistant, 3rd year undergraduate Development Economics

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Academic Appointments

Spring–Summer	2017	Visiting Researcher, Aix-Marseille University Marseille , France

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Awards and Honors

2016	Ph.D. Funding Award Department of Economics and Finance - Durham University
2016	Best Overall Performance Award (Ranked 1st out of 650+ students) M.Sc. Finance Programmes - Durham University
2016	Outstanding Performance Award (Ranked 1st out of 30+ students) M.Sc. Finance (Economics and Finance) - Durham University
2016	Recognition in Durham University's Alumni Magazine Durham University

2016	2nd Best Dissertation (out of 650+ students) M.Sc. Finance Programmes - Durham University
2016	Recognition in Durham University's Alumni Magazine Durham University
2013	2nd Best Overall Performance (out of 100+ students) M.A. International Financial Analysis - Newcastle University
2013	2nd Best Dissertation (out of 100+ students) M.A. International Financial Analysis - Newcastle University

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Industry Experience

Feb –Aug	2012	Investment Analyst Intern, Lowes Financial Management Newcastle upon Tyne, UK
June –Sept	2014	Credit Controller, Southern Cross Healthcare Group PLC Darlington, UK

Certificates

2016	Financial Risk Manager (FRM) Global Association of Risk Professionals (GARP)
2014	Passed Chartered Financial Analyst (CFA) Level 2 Exam CFA Institute

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Professional Development

2019	Parallel Design Patterns EPCC Training Team (The University of Edinburgh) Department of Computer Science, Durham University
2018	Scientific Programming with Python EPCC Training Team (The University of Edinburgh) Department of Computer Science, Durham University
2016	Introduction to Hamilton Cluster The Institute of Advanced Research Computing Department of Computer Science, Durham University
2016	IARC's Data Science: A Primer The Institute of Advanced Research Computing Department of Computer Science, Durham University

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Programming Experience

- ❑ MATLAB
- ❑ R
- ❑ LaTeX
- ❑ Linux
- ❑ Python
- ❑ HPC (SLURM)
- ❑ Stata
- ❑ SPSS
- ❑ Minitab
- ❑ Excel VBA
- ❑ Fortran

Additional Skills

Languages	Fluent in English, Russian and Persian; Intermediate Italian
Interests	Played the piano (classically) for 7 years Received vocal training at the Rimsky-Korsakov conservatoire in St. Petersburg (Russia) In addition, I enjoy cooking and attending classical concerts in my spare time

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References

Professor. Abderrahim Taamouti
Position: Professor in Economics
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Dr. Majid Al Sadoon
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