







Kaveh S. Nobari

Curriculum Vitae

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DOCTORAL RESEARCH

“Finite-Sample Sign-Based Procedures In Linear And Non-Linear Statistical Models: With Applications To Granger Causality Analysis”

My thesis consists of three essays on hypothesis testing and Granger causality analysis. The main topics under consideration are: (1) exact point-optimal sign-based inference in linear and non-linear predictive regressions with a financial application; (2) sign-based measures of causality in the Granger sense with an economics application.

EDUCATION

- 2015 – 2020 **Ph.D. in Economics, Econometrics**
ADVISOR: PROFESSOR. ABDERRAHIM TAAMOUTI
Business School
Durham University, UK
- 2014 – 2015 **M.Sc. in Economics & Finance**
RANKED 1ST OUT OF THE ENTIRE COURSE
Business School
Durham University, UK
- 2012 – 2013 **M.A. in International Financial Analysis**
RANKED 2ND OUT OF THE ENTIRE COURSE
Business School
Newcastle University, UK
- 2007 – 2011 **B.A. (HONS) in Accounting & Finance**
Business School
Newcastle University, UK

RESEARCH AREAS

- PRIMARY **Econometric Theory, Financial Econometrics**
SECONDARY **Machine Learning, Financial Economics, Market Microstructure**

AWARDS & RECOGNITION

- 2016 **Funding Award – Doctoral Office**
Durham University
- 2015 **Outstanding Performance Award – (Ranked 1st out of ~ 30 students)**
M.Sc. Economics & Finance – Durham University
- 2015 **Best Overall Performance Award – (Ranked 1st out of ~ 600 students)**
M.Sc. Finance Programmes – Durham University
- 2015 **2nd Best Dissertation – (out of ~ 600 students)**
M.Sc. Finance Programmes – 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

REFERENCES

Professor. Abderrahim Taamouti

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Durham University
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Professor. Jose Olmo

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Dr. Majid Al Sadoon

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ACADEMIC APPOINTMENTS

OCT 2016 – JULY 2019 (PT)

Durham University *Teaching Assistant*

I was responsible for leading the seminars for the following modules:

- Introduction to Financial Econometrics [2nd year UG];
- Fundamentals of Finance [PG];
- Development Economics [3rd year UG].

Successfully maintained a highly positive feedback from both students and module leaders throughout my three years of teaching experience, as a result of which I was frequently approached by the university to partake in other teaching opportunities.

PRESENT, FROM AUG 2016 (PT)

Aix-Marseille School of Economics *Researcher*

Undertook a part-time appointment at Aix-Marseille School of Economics, the aim of which was to assess the impact of executive constraints on the volatility and risk of listed firms in the MENA region - the MENA project is still ongoing.

INDUSTRY EXPERIENCE

JULY 2014 – SEPT 2014 (FT)

Lowes Financial Management *Investment Analyst Intern*

In this summer job, I was tasked with assessing the performance of funds and analysing their respective strategies. I accomplished this by employing various methods, such as using performance ratios as well as ensuring that investment objective of the funds were aligned with the needs of our clients. I was further involved with researching the Peer-to-Peer lending market in the UK, its future prospects and investment opportunities.

FEB 2012 – AUG 2012 (FT)

Southern Cross Healthcare Group PLC *Credit Controller*

I was involved in the solvent wind down of the Southern Cross Healthcare Group. I worked closely with the administrators of the company (namely Grant Thornton) and remained as the last controller to ensure a smooth transition of the care homes to the their new healthcare provider.

CONFERENCES

- 2019 Oral Presentation in Rabat (Morocco)
The Econometric Society - Africa
- 2018 Oral Presentation in Cotonou (Benin)
The Econometric Society - Africa
- 2016 Oral Presentation in Seville (Spain)
CFE-CMStatistics

JOB MARKET PAPER

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

Short abstract: *“Predictors of stock returns are often highly persistent with innovations that are correlated with the disturbances in the predictive regression of returns, which leads to invalid inference using the conventional tests. We propose exact point-optimal sign-based tests in the context of linear and non-linear models that are valid in the presence of highly persistent regressors. The proposed tests are exact, distribution-free, and robust against heteroskedasticity of unknown form. Further, they may be inverted to build confidence regions for the parameters of the regression function.”*

WORKING PAPERS

Nobari, K. Pair-copula constructions of point-optimal sign-based tests for predictive linear and non-linear 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.”*

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., 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., 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.”*

CERTIFICATES & PROFESSIONAL DEVELOPMENT

CERTIFICATES **Passed CFA Level II Exam – CFA Institute**
Qualified Financial Risk Manager – GARP

DEVELOPMENT **IARC's Data Science: A Primer – The Institute of Advanced Research Computing**

ADDITIONAL SKILLS

LANGUAGES Fluent in English, Persian and Russian, with an intermediate knowledge of Italian

INTERESTS Played the piano (classically) for 7 years
Received brief vocal training at the Rimsky-Korsakov conservatoire in St. Petersburg (Russia)
In addition, I enjoy cooking and attending classical concerts in my spare time.

COMPUTER LITERACY

WORKING KNOWLEDGE Python, Microsoft Office, Fortran, Computer Hardware & Support

WORKING EXPERIENCE Matlab, R, L^AT_EX, Linux, VBA, High Performance Computing (SLURM), Stata, Eviews, SPSS