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EDUCATION

University of Warwick

P.h.D Candidate in Economics

Expected 2025

Main supervisors: Eric Renault, Cesare Robotti

M.Res. in Economics (Distinction)

Sep. 2021

University of Bologna

Dec. 2018

M.S. in Economics (110/110 *Cum Laude*)

University of Padua

Oct. 2016

B.S. in Economics and Management

FIELDS

Primary: Econometrics, Time Series.

Secondary: Empirical Asset Pricing, Macroeconomics.

RESEARCH PAPERS

Causality versus Serial Correlation: an Asymmetric Portmanteau Test. 2024.
(JOB MARKET PAPER)

This paper studies the problem of testing for causality in mean between multivariate time series within the class of testing procedures based on serial cross-correlations. Building on Hong (1996), I propose a Portmanteau statistic, based on the weighted sum of quadratic forms of cross-correlations, which deviates from the standard tests by introducing a correction term to offset the influence of the inverse causality. Imposing minimal assumptions on the joint process, the corrected test statistic converges asymptotically to a standard normal distribution under the null hypothesis of (one-sided) conditional mean independence. Monte Carlo simulations provide evidence that the test has good finite sample properties. As empirical application, I assess the fundamentalness of three popular measures of structural shocks, concluding that Baker et al. (2016)'s economic policy uncertainty (EPU) shock is non-fundamental. Reexamining Diercks et al. (2024), I find inflation responds positively to an EPU shock, which indicates that EPU shock may be considered as a negative supply-side shock.

Spurious and Unpriced Non-traded Factors in Financial Economics. 2024.
(with Cesare Robotti and Xinyi Zhang)

To explain the cross-section of asset returns, a zoo of economic factors that are not portfolio excess returns has been proposed. In contrast to traded factors, the non-traded factors tend to exhibit lower correlations with the asset returns. Standard inference on risk premium therefore tends to be more fragile, and the issue of weak identification might be exacerbated by the degree of model misspecification. Yet, robust inference has often been overlooked by many empirical studies, while limited efforts have been devoted to domesticating such factors. After re-evaluating the non-traded factor zoo, we find that the vast majority of the original model specifications published in top academic journals suffer from the aforementioned fragilities. Robust inference indicates that most of the proposed non-traded factors are unpriced in the commonly used portfolios. The findings are more drastic when considering multiple hypothesis testing adjustments, or when incorporating the market factor as an additional control. However, when summarizing the non-traded factors via PCA, we find that the zoo does carry some non-zero pricing information.

On the Statistical Properties of Tests of Parameter Restrictions in Beta-pricing Models with a Large Number of Assets. 2023.
(with Cesare Robotti and Giulio Rossetti)

We study the size and power properties of t-tests of parameter restrictions for newly- designed methods that aim at reliably estimating risk premia in linear asset pricing models when the cross-sectional dimension is large. By simulating a variety of empirically calibrated data generating processes for sample sizes that are typically encountered in empirical work, we evaluate the finite-sample performance of the test statistics for scenarios where the factor structure is (i) strong and pervasive; (ii) spurious; (iii) weak/semi-strong and pervasive; (iv) weak/semi-strong and not pervasive; and (v) sparse. PCA-based methods such as those of Lettau and Pelger (2020), Giglio and Xiu (2021), and Giglio et al. (2022) work best when the factors are strong and pervasive, and they continue to exhibit good finite-sample properties when the factors are spurious. However, when the factor structure is semi-strong and pervasive, the split-sample estimator of Anatolyev and Mikusheva (2021) performs substantially better than the PCA-based estimators listed above. In the case of sparse loadings or when the factors are semi-strong and not pervasive, none of the candidate methods displays satisfactory finite-sample properties.

RESEARCH IN PROGRESS

Social Interactions under Cluster Dependence

(with Luis E. Candelaria)

An Asymmetric Generalized Spectral Tests for the Martingale Difference Hypothesis

The Impulse Responses Zoo Tamed by Local Projections

(with Eric Renault)

TEACHING EXPERIENCE

University of Warwick, Dep. of Economics

Sep. 2019 - Present

- Postgraduate level (M.Res. in Economics):
 - EC9A3: Advanced Econometric Theory,
taught by Eric Renault and Luis Candelaria: *Oct.-Nov. 2021, Feb.-Mar. 2022, Jan.-Feb. 2023, Jan.-Feb. 2024.*
- Undergraduate level:
 - EC226: Econometrics 1,
taught by Jeremy Smith and Kenichi Nagasawa: *Oct. 2021-Apr. 2022.*
 - EC204/EC239: Economics 2,
taught by Jennifer Smith: *Jan. 2021-Apr. 2021.*
 - EC201: Macroeconomics 2,
taught by Roberto Pancrazi: *Oct. 2020-Jan. 2021.*

Queen Mary University of London, Dep. of Economics

Mar.-Jul. 2022

- Graduate level: Economics of Inequality
(Professional Masters-EMAP), taught by Sang Yoon Lee.

University of Bologna, Dep. of Economics

Sep.-Oct. 2018

- Graduate level: Macroeconomics 3 (now: Advanced Macroeconomics)
(M.S. in Economics-LMEC), taught by Laura Bottazzi.

PROFESSIONAL ACTIVITIES

Referee service:

Management Science, Econometric Theory.

Presentations:

- 2024: SoFiE Annual Conference (Rio de Janeiro)
- 2023: SoFiE Annual Conference (Seoul), Lancaster-Manchester PhD Workshop on Financial Econometrics* (Lancaster), Warwick-Turing Economics Data Science Workshop (Coventry);
- 2021: Barcelona GSE Summer Forum: Advances in Structural Shocks* (Online).

*: presented by co-author(s)

University of Zurich (Dep. of Economics)

Jan.-Aug. 2019

- Research Assistant to David Hémous
Project: Induced Automation Innovation: Evidence from firm-level Patent Data.

University of Bologna (Dep. of Economics)

May-Sep. 2018

- Research Assistant to Maria Bigoni
Topics: Eliciting Beliefs on Parental Investment.

SCHOLARSHIPS AND AWARDS

University of Warwick (Dep. of Economics)

Sep. 2021-present

Skeoch Scholarship

Teaching excellence award

Mar. 2024

Society for Financial Econometrics (SoFiE)

Jun. 2023

Travel Scholarship

University of Warwick (Dep. of Economics)

Sep. 2019-2021

Departmental scholarship for MRes (maintenance & tuition fees)

REFERENCES

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