Yuan Chen

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Education

Vienna Graduate School of Finance
Ph.D. in Finance 09.2021 - present

ETH Zurich and University of Zurich
MSc in Quantitative Finance 09.2018 - 08.2021

Macau University of Science and Technology
BBA in Finance 09.2014 - 08.2018

Research Interests

Financial Econometrics, Behavioral Finance, Portfolio Optimization, FinTech
Interpretable Machine Learning in Finance

Job Market Paper

[1] Is Correlation Neglect Bad for Portfolio Diversification?

Presented at: Freiburg-Wien-Padova-Zürich Seminar, VGSF Conference, VGSF PhD research seminar, 2025 European Winter Meeting of the Econometric Society (Scheduled)

While correlations play a central role in Markowitz portfolio selection, evidence shows that investors often neglect them, relying on simple heuristics rather than Pearson correlation. Standard theory suggests that incorporating correlations should improve performance, yet out-of-sample results frequently favor strategies that ignore them. This paper asks: Is correlation neglect always harmful, and which aspects of correlation truly matter? I propose a transformation that isolates the directional component of correlations and show that both fully ignoring and fully relying on correlation are suboptimal. Empirically, the directional component captures the most relevant information for diversification and improves portfolio performance. By distinguishing between the beneficial and irrelevant components of correlation coefficients, the paper provides a framework for constructing more robust portfolios.

Working Papers

[1] Multivariate Inference for Dynamic Systemic Risk Measures
with Nikolaus Hautsch, Melanie Schienle, Jérémy Leymarie
R&R Journal of Econometrics

Presented at: 17th Annual SoFiE Conference, QFFE 2025

This paper introduces a system perspective on inference for standard dynamic systemic risk measures. In particular, we provide a multivariate GARCH-type framework to analytically quantify confidence and prediction intervals of marginal expected shortfall (MES) and delta conditional value-at-risk (ΔCoVaR) type measures in a multivariate system setting. We establish the asymptotic properties for estimators of both types of measures and show how the estimation uncertainty in the multivariate case can be decomposed into dynamic univariate marginal and potentially time-varying dependence components. Our finite sample study shows good performance of our methodology for estimation and prediction risk in cases with constant and dynamic dependence. In an empirical application, we provide new results for the analysis of systemic risk contributions of 50 large US financial institutions in a recent period from the financial crisis to the COVID crisis (2010-2020). Our findings highlight the critical role of comprehensive multivariate forecast intervals in systemic risk assessment, particularly with regard to the interpretation of systemic risk rankings.

[2]**Cardinality-Constrained Optimization for Large-Scale Portfolio**
with Nikolaus Hautsch, Immanuel Bomze, Bo Peng

Presented at: NUS QF Conference 2025, EURO 2025, EUROPT 2025, CFE-CM 2024
We propose a portfolio optimization model that reconciles Keynes's advocacy for concentrated investments with Markowitz's emphasis on diversification. By incorporating cardinality constraints into the Markowitz mean-variance framework, we enable investors to focus on a small set of assets, fostering specialized expertise. Cardinality constraints allow investors to still use the sample covariance matrix in high-dimensional settings with limited data, balancing diversification needs while mitigating estimation errors inherent in such environments.

Teaching

Introductory Econometrics 2023
Econometrics II 2023, 2024, 2025
Co-supervised 6 Bachelor theses in the fields of Financial Econometrics, Machine Learning and Portfolio Optimization 2023 - 2025

Experience

Department of Statistics and Operations Research, University of Vienna 2021 - 2025
Research Assistant, Systemic Risk Project funded by the Austrian National Bank
ZZ Vermögensverwaltung — Portfolio Management Program, Vienna 2021 - 2023
Analyst & Manager, student-managed portfolio (EUR 1.6 million AUM)

Honors & Awards

CFM SoFiE 2025 travel grant 2025
Winner - SIAG/FME Code Quest 2023 (DeFi & Robo-Advising Challenge) 2023
Vienna Graduate School of Finance, Full Scholarship 2021 - 2025
Mainland China Student Grant by MUST Foundation 2015 - 2018
Dean's Honor List Student & Scholarship 2015 - 2017
Academic Scholarship - Bank of China, Macau Branch 2017
Academic Scholarship - Nam Kwong (group) Company Limited 2016, 2018

Presentations

NUS Quantitative Finance Conference 2025, Singapore 07.2025
EUROPT 2025, University of Southampton, UK 07.2025
17th Annual SoFiE Conference, Cergy, France 06.2025
34th European Conference on Operational Research, Leeds, UK 06.2025
Freiburg-Wien-Padova-Zürich Seminar, Klosters, Switzerland 02.2025
18th International Joint Conference CFE-CMStatistics, London, UK 12.2024
33rd European Conference on Operational Research, Copenhagen, Denmark 07.2024
VGSF Conference 2022, 2023, 2024, 2025

Languages and Skills

Chinese (native), English (fluent), German (beginner)
MATLAB, LaTeX, R, Julia

References

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