Yuan Chen

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Education

Vienna Graduate School of Finance
Ph.D. 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

While correlations between stocks remain central to Markowitz's portfolio selection and diversification, evidence shows that investors often neglect them, relying on simple heuristics rather than the Pearson correlation coefficient. Although standard theory suggests educating investors about correlations, empirical studies indicate that ignoring correlations can sometimes improve out-of-sample performance. This raises key questions: Is correlation neglect always harmful? Which aspects of correlation are essential for portfolio construction? In this paper, I propose a transformation that isolates the directional component of correlations and demonstrate that both fully ignoring correlations and fully relying on them are suboptimal. Empirically, I show that the directional component captures the most relevant information for diversification and plays a critical role in improving portfolio performance. By distinguishing between beneficial and irrelevant aspects of correlations, this paper provides a new framework for constructing more robust and effective investment 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

Honors & Awards

CFM SoFiE 2025 travel grant	2025
Winner - SIAG/FME Code Quest 2023 (DeFi & RoboAdvising 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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