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Siang-Li Jheng

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Date of birth: 18/02/1999 **Nationality:** Taiwanese

EDUCATION AND TRAINING

[01/10/2024 – Current]

Doctor of Philosophy

Doctoral School of Economic Cybernetics and Statistics, Bucharest University of Economic Studies https://en.ase.ro

City: Bucharest | **Country:** Romania |

[01/09/2022 – 30/06/2024]

Master of Science in Finance

Department of Information Management and Finance, National Yang Ming Chiao Tung University

City: Hsinchu | **Country:** Taiwan |

[01/09/2017 – 30/06/2021]

Bachelor of Science

Department of Mathematics, National Taiwan Normal University

City: Taipei | **Country:** Taiwan |

PUBLICATIONS

[2024]

Financial Risk Meters in Taiwan's High-Cap Sectors

Reference: Jheng, Siang-Li and Teng, Huei-Wen and Härdle, Wolfgang Karl (Dec 18, 2024).

This study utilizes the Financial Risk Meter (FRM) technology to evaluate the stability, systemic risk, and tail co-movements in Taiwan's stock market, highlighting its critical role as a global hub for semiconductor and electronics manufacturing. We present a novel application of dynamically selecting top-capitalization companies and examine four distinct FRM constructs. Our empirical results reveal the FRM's effectiveness particularly for the electronics sector achieves an impressive out-of-sample AUC of 0.8037 in explaining recessions using parametric methods. The contributions of the FRM@TW are in offering a localized lens for systemic risk assessment, providing valuable insights for both policymakers and investors.

Keywords: FRM (Financial Risk Meter); Lasso Quantile Regression; Systemic Risk; Recession; Taiwan Market; Financial Network; Co-stress

CONFERENCES AND SEMINARS

[16/01/2025] **MSCA - Workshop on Digital Finance** Bucharest University of Economic Studies, Bucharest, Romania

"Crypto Currency Returns"

[05/12/2024] **The 4th Yushan Conference** National Taipei University of Technology (NTUT), Taipei, Taiwan

Financial Risk Meters in Taiwan's High-Cap Sectors

[14/11/2024] **ICAS2024 - The 17th International Conference on Applied Statistics** National Institute of Statistics Romania, Bucharest, Romania

Financial Risk Meters in Taiwan's High-Cap Sectors

[01/12/2023] **19th International Conference and Annual Meeting of the Operations Research Society of Taiwan**

Taichung, Taiwan

Financial Risk Meter in Taiwan's High-Cap Electronic and Financial Sectors

WORK EXPERIENCE

[01/10/2024 – Current]

Early Stage Researcher

MSCA Industrial Doctoral Network on Digital Finance https://www.digital-finance-msca.com

Detecting Anomalies and Dependence Structures in High Dimensional, High Frequency Financial Data

Objectives

Herding, a well-known financial anomaly, is thought to cause high volatility, volatile prices, and low liquidity (Bikhchandani and Sharma, 2000). Greed and herd behaviour caused the seventeenth-century tulip mania, the 1995–2000 Internet bubble, and the 2015 Chinese stock market crash. This project studies high-dimensional sentiment networks and herd behaviour on the stock market. To better fit investor sentiment, the project will calibrate the option pricing model, Stochastic Volatility and Correlated Jump (SVCJ).

Expected Results

The project will detect anomalies like herd behaviour and dependence structures in high-dimensional, high-frequency financial data. We plan to create a tail event-driven network that graphs or matrices the interconnections of a large panel to understand sentiment network mechanics. That will inform our herd behaviour detection and option pricing model calibration. Results will be disseminated through publications in prestigious journals available via public repositories, presentations at prestigious conferences, and knowledge exchange.

[01/09/2023 – 31/01/2024]

Teaching Assistant of Statistics

Department of Information Management and Finance, National Yang Ming Chiao Tung University

City: Hsinchu | **Country:** Taiwan

- Assist with student inquiries and homework
- Explain and review exam solutions
- Establish and manage course GitHub repository

[01/09/2023 – 31/01/2024]

Teaching Assistant of Machine Learning and FinTech

Department of Information Management and Finance, National Yang Ming Chiao Tung University

City: Hsinchu | **Country:** Taiwan

- Host a session on GitHub operations and applications
- Explain and review exam solutions
- Manage student's homework and the final project via GitHub

[01/02/2024 – 30/06/2024]

Teaching Assistant of Statistics

College of Management, National Yang Ming Chiao Tung University

City: Hsinchu | **Country:** Taiwan

- Assist with student inquiries and homework
- Grade students' assignments and exams
- Establish and manage course GitHub repository

PROJECTS

[01/10/2024 – Current]

"Crypto Currency Returns"

2024 marks a significant milestone in integrating digital finance into the global financial landscape. The SEC’s approval of Bitcoin and Ethereum ETFs highlights the ongoing and rapid digital finance trend. This paper provides a systematic review of existing research on "Crypto Currency Returns," employing updated datasets to examine the effectiveness and robustness. By constructing a comprehensive framework, this paper aims to paint a complete blueprint that connects the past, present, and future to illustrate the remarkable journey of Crypto Currency “Returns.”

[01/09/2022 – 31/01/2023] **Fraud Detection**

This project leverages machine learning techniques to classify and detect fraudulent financial transactions, focusing on distinguishing between fraud and non-fraud through various ML models and evaluating their performance.

Link: https://quantinar.com/course/191/deda-nycu-2022

[01/09/2020 – 31/01/2021] **Population Growth Models and COVID-19 Daily Case Predictions**

This project employs mathematical and statistical analysis to explore population growth trends through Malthusian and Logistic population models, regression analysis of census data from Taiwan and the USA, and applies these models to predict COVID-19 case numbers, revealing the interplay between population dynamics and disease transmission.

LANGUAGE SKILLS

Mother tongue(s): Chinese

Other language(s):

English

LISTENING C1 **READING** B2 **WRITING** B2

SPOKEN PRODUCTION B2 **SPOKEN INTERACTION** B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

DIGITAL SKILLS

My Digital Skills

Programming

Python | MATLAB | R | GitHub | LaTeX

Basic

Microsoft Office | Apple Office Suite

CREATIVE WORKS

[01/09/2022 – Current] **Quantinar courselet**

Give online courselet about Financial Risk Meters in Taiwan and Fraud Detection project

Links: https://quantinar.com/course/707/FRM in Taiwan | https://quantinar.com/course/191/deda-nycu-2022

[01/09/2022 – Current] **Quantlet developer**

Provide and maintain the code on Quantlet.

Link: https://quantlet.com