Cong Wang

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Experience

European Stability Mechanism (ESM) **Luxembourg**
Financial sector analyst — May 2024 - Present
- Scientific research in Macro-Financial linkages.
- Financial programming and policy study.
- Market intelligence and financial sector analysis.

University of California, Los Angeles **LA, United States**
Visiting Researcher — Mar 2023 - Sep 2023
- Scientific research in Macro-Financial linkages.
- Data collection, cleaning, visualization, and simulation analysis joint with my hosting supervisor.

China Life Asset Management Company **Guangzhou, China**
Analyst — Jul 2020 - Sep 2021
- Data analysis, visualization, and simulation for the secondary financial market.
- Sector and company report writing and presentation for internal and external stakeholders.

University of Amsterdam **Amsterdam, Netherlands**
QTEM Program — Sep 2019 - Feb 2020
- Quantitative analysis training. Financial modeling training.

Education

Sapienza University of Rome **Rome, Italy**
PhD in Economics — Nov 2021 - Present

HSE University **St. Petersburg, Russia**
Ms in Finance — Sep 2018 - Jul 2020

Shenyang Ligong University **Shenyang, China**
Bs in Engineering — Sep 2012 - Jul 2016

Research Interests
- Macro-Finance, Causal Inference, Machine Learning

Conference & Workshop

IMF Financial Programming and Policies Workshop — Luxembourg, Luxembourg
European Stability Mechanism. — Jun 2024

Political Economy of Climate and the Environment Mini-Conference — Los Angeles, USA
University of California, Los Angeles. — Aug 2023

2023 North American Summer Meeting (NASM) — Los Angeles, USA
The Econometric Society. — Jun 2023

CCPR Differences-in-Differences Mini-Conference — Los Angeles, USA
University of California, Los Angeles. — May 2023

Empirical Tools/Applications in Banking and Macro-Finance — Barcelona, Spain
Barcelona School of Economics, summer school — Jul 2022

Workshop on Demand System Asset Pricing — Online
Held by Ralph S.J. Koijen and Motohiro Yogo. — Jun 2022

Innovation, Growth, and International Production. Models and Data Analysis — Rome, Italy
Sapienza, University of Rome. Advanced Course 2022, 17th Edition. — May 2022

2019 International Banking Cycle — Amsterdam, Netherlands
University of Amsterdam. Innovation and Sustainability of the Banking Industry. — Oct 2019

Skills

- **Computer Language:** Python, R, Stata, Matlab
- **Human Language:** Chinese, English, Russian

Publications

Counterfactual and Synthetic Control Method: Causal Inference with Instrumented Principal Component Analysis
Job Market Paper

- The fundamental problem of causal inference lies in the absence of counterfactuals. Traditional methodologies impute the missing counterfactuals implicitly or explicitly based on untestable or overly stringent assumptions. Synthetic control method (SCM) utilizes a weighted average of control units to impute the missing counterfactual for the treated unit. Although SCM relaxes some strict assumptions, it still requires the treated unit to be inside the convex hull formed by the controls, avoiding extrapolation. In recent advances, researchers have modeled the entire data generating process (DGP) to explicitly impute the missing counterfactual. This paper expands the interactive fixed effect (IFE) model by instrumenting covariates into factor loadings, adding additional robustness. This methodology offers multiple benefits: firstly, it incorporates the strengths of previous SCM approaches, such as the relaxation of the untestable parallel trends assumption (PTA). Secondly, it does not require the targeted outcomes to be inside the convex hull formed by the controls. Thirdly, it eliminates the need for correct model specification required by the IFE model. Finally, it inherits the ability of principal component analysis (PCA) to effectively handle high-dimensional data and enhances the value extracted from numerous covariates.

Firms' Carbon Emissions and Stock Returns
working in progress

- In recent years, unanticipated climate change risks have propelled green portfolios to achieve superior returns compared to their brown counterparts. Paradoxically, both empirical and theoretical evidence underscore a perplexing phenomenon: brown firms, characterized by higher carbon emissions or lower ESG (Environmental, Social, and Governance) scores, tend to yield greater expected stock returns. This discrepancy is primarily attributed to investors' demand for climate change-related risk premiums from these brown firms' stocks. This paper seeks to explore this apparent contradiction. Despite the consistent outperformance of green portfolios over their brown counterparts, empirical studies at the firm level frequently uncover the reverse trend. By conducting empirical analyses encompassing all publicly listed companies in the U.S. stock market spanning the years 2002 to 2021, our objective is to furnish a comprehensive explanation for this intriguing and seemingly contradictory disparity.

Stock Return Prediction with Multiple Measures Using Neural Network Models
Published on *Financial Innovation*

- In the field of empirical asset pricing, the challenges of high dimensionality, non-linear relationships, and interaction effects have led to the increasing popularity of machine learning (ML) methods. This study investigates the performance of ML methods when predicting different measures of stock returns from various factor models and investigates the feature importance and interaction effects among firm-specific variables and macroeconomic factors in this context. Our findings reveal that neural network models exhibit consistent performance across different stock return measures when they rely solely on firm-specific characteristic variables. However, the inclusion of macroeconomic factors from the financial market, real economic activities, and investor sentiment leads to substantial improvements in the model performance. Notably, the degree of improvement varies with the specific measures of stock returns under consideration. Furthermore, our analysis indicates that, after the inclusion of macroeconomic factors, there is a dissimilarity in model performance, variable importance, and interaction effects among macroeconomic and firm-specific variables, particularly concerning abnormal returns derived from the Fama–French three- and five-factor models compared with excess returns. This divergence is primarily attributed to the extent to which these factor models remove the variance associated with the macroeconomic variables. These findings collectively offer valuable insights into the efficacy of neural network models for stock return predictions and contribute to a deeper understanding of the intricate relationship between factor models, stock returns, and macroeconomic conditions in the domain of empirical asset pricing.

Scholarships and Awards

University of Rome International Mobility Scholarship	2022
University of Rome fully founded Ph.D. scholarship	2021
QTEM Honored Graduate Diploma	2020
HSE University International Mobility Scholarship	2019
HSE University Scholarship	2018

Reference

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