

Cong Wang

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LinkedIn

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PROFILE SUMMARY

Econometrician specializing in **applied econometrics**, causal inference, and machine learning, with a focus on developing innovative methodologies for high-dimensional data environments. My PhD research advances the field of quantitative methods through novel contributions such as the *Counterfactual and Synthetic Control with Instrumented Principal Component Analysis (CSC-IPCA)*. This approach enhances causal inference by leveraging instrumented factor loadings to improve prediction accuracy and reduce model misspecification in high-dimensional datasets.

I have conducted research on **machine learning** methods for stock return prediction, published in *Financial Innovation*. I have also explored the intersection of climate risk and financial markets in my working paper on *firms' carbon emissions and stock returns*, providing empirical insights into how market preferences shift in response to climate concerns. With expertise in **Python, R**, and advanced econometric techniques, I aim to contribute to cutting-edge research and teaching in mathematical and quantitative methods, particularly in machine learning and high-dimensional econometric analysis.

RESEARCH INTEREST

Primary field:	Econometrics
Secondary field:	Causal inference, Machine learning
Industry related:	Policy analysis, Risk management

EDUCATION

Sapienza University of Rome

PhD in Economics

PhD Thesis: *Essays in Causal Inference Methods Designed for Financial Economics*

HSE University

MSc in Finance

Master Thesis: *Bank's off-balance-sheet activities and its profitability.*

Shenyang Ligong University

BSc in Engineering

Rome Italy

Nov 2021 - May 2025 (Expected)

St. Petersburg, Russia

Sep 2018 - Jun 2020

Shenyang, China

Sep 2012 - Jun 2016

ACADEMIC EXPERIENCE

Visiting PhD Researcher at University of California, Los Angeles (**UCLA**, Mar 2023 – Sep 2023); Summer School at Barcelona School of Economics (**BSE**, Jun 2022 – Jul 2022); QTEM Programme at University of Amsterdam (**UvA**, Sep 2019 – Feb 2020);

PUBLICATIONS

Job Market Paper

Counterfactual and Synthetic Control Method: Causal Inference with Instrumented Principal Component Analysis. ---- [Download](#).

<Presented at 2024 European Winter Meeting of the Econometric Society>

Abstract: In this paper, we propose a novel method for causal inference within the framework of counterfactual and synthetic control. Matching forward the generalized synthetic control method, our instrumented principal component analysis method instruments factor loadings with predictive covariates rather than including them as regressors. These instrumented factor loadings exhibit time-varying dynamics, offering a better economic interpretation. Covariates are instrumented through a transformation matrix, Γ , when we have a large number of covariates it can be easily reduced in accordance with a small number of latent factors helping us to effectively handle high-dimensional datasets and making the model parsimonious. Our simulations show that this method is less biased in the presence of unobserved covariates compared to other mainstream approaches. In the empirical application, we use the proposed method to evaluate the effect of Brexit on foreign direct investment to the UK.

Published Paper

Wang, C., 2024. Stock return prediction with multiple measures using neural network models. *Financial Innovation*, 10(1), p.72. (SCI Q1, Journal Impact Factor 6.9)

Working Paper

Wang, C., 2023. Firms' Carbon Emissions and Stock Returns. *Available at SSRN 4582276*.

SCHOLARSHIPS & AWARDS

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

CONFERENCE & WORKSHOP

- 2024** European Winter Meeting of the Econometric Society (16-18 Dec, Palma de Mallorca, Spain), Central Bank Research Association (CEBRA) Conference (19 Nov, Luxembourg), ESM Policy Conference (27 Nov, Luxembourg), 12th IEA Workshop in Econometrics and Empirical Economics (5-6 Sep, Bertinoro, Italy), IMF Financial Programming and Policy Workshop (14-15 Jun, Luxembourg).
- 2023** Climate and the Environment Mini-Conference (20 Aug, Los Angeles, USA), North America Summer Meeting of the Econometric Society (22-25 Jun, Los Angeles, USA), CCPR Difference-in-Differences Mini-Conference (20 May, Los Angeles, USA).
- 2022** Empirical Tools/Applications in Banking and Macro-Finance (28 Jul, Barcelona, Spain), Innovation, Growth, and Production. Method and Data Analysis (18-21 May, Rome, Italy)

SKILLS

Programming Language: Python (Expert), R (Advanced), MATLAB (Intermediate)

Data Visualization: Power BI (Expert), Tableau (Advanced)

Data Management: SQL (Expert)

Data Terminals: Bloomberg terminal (Expert), Refinitiv Eikon (Expert)

Human Language: Chinese (Native), English (Advanced), Russian (Advanced)

PROFESSIONAL EXPERIENCE

European Stability Mechanism, Chief Economist Department

Financial Sector Analyst

Luxembourg

4.2024 – now

- Developed and optimized data-driven tools: Enhanced the Bank Viability Index (BVI) using Python to evaluate financial stability across profitability, asset quality, capital adequacy, and liquidity metrics, ensuring precise and timely insights into Euro Area banks' health.
- Optimized early warning systems: Built predictive models to monitor loan performance and identify early signals of deterioration, such as transitions to Stage 3, optimizing risk detection processes.
- Designed advanced analytical solutions: Delivered actionable insights on macro-financial trends by integrating econometric models and data visualization techniques. Key contributions included analyses of Basel III reforms, sovereign-bank nexus risks, and capital market union.
- Streamlined automation and analytics: Leveraged Python, SQL, and statistical tools to automate reporting workflows and analyze large datasets, improving operational efficiency and delivering critical intelligence to stakeholders.

University of California Los Angeles, Department of Economics

Visiting Researcher

LA, USA

3.2023 – 9.2023

China Life Asset Management, Market Research Division

Market Analyst

Guangzhou, China

7.2020 – 9.2021

Cbonds, Research Department

Fixed Income Analyst

St. Petersburg, Russia

3.2019 – 8.2019

REFERENCES

Valeria Patella

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