Geyue (Grace) Sun

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Research Interests

Macroeconomics and Risks

Capital Control, Capital Flow, Crypto Assets, Financial Risks

AI/ML in Economics

AI and Financial Market, LLM prompting/Finetuning, Machine Learning in Forecasting

Education

George Washington University	Washington D.C., USA
Ph.D. in Economics (Expected 05/2026)	09/2021–present
– Advisor: Dr. Tomas Williams	
University of International Business and Economics	Beijing, China
M.S. in International economics	09/2018–06/2021
University of California, Berkeley	Berkeley, USA
Exchange Student in Economics	01/2020–05/2020
Jiangxi University of Finance and Economics	Jiangxi, China
B.A. in Finance	09/2014–06/2018

Work Experience

Linkedin

Andersen Institute of Finance and Economics Washington, D.C., USA
Economist Intern 06/2025–8/2025

- Designed and implemented a **multi-step robust LLM pipeline** to process thousands of stablecoin podcast episodes, integrating Whisper transcription, GPT-4o/Claude multi-prompt analysis, and Python post-processing to generate structured datasets on sentiment, regulatory views, and key themes.

- Researched and authored an **Andersen Note** on *Investment Screening Mechanisms: Definition, Legal Framework, and Stylized Facts*, providing a comparative analysis of OECD frameworks. Integrated legal analysis, stylized facts, and sectoral shifts in geoeconomic risk considerations. The note is part of the Institute's flagship policy series and is being expanded into a peer-reviewed paper.

- **Two papers are published**: *Stablecoins: A Revolutionary Payment Technology with Financial Risks*☍, published as an Andersen Institute White Paper. *An LLM-based Survey of Stablecoin Podcasts*☍, published in SSRN.

Selected Research Experience

Learning to Regulate: A New Event-Level Dataset of Capital Control Measures 2024-2025
Working paper of The Journal of Finance and Data Science

- Constructed a global event-level dataset of 5,198 capital control measures (1999–2023, 196 countries) using **LLM extraction and also finetuning methodology** based on IMF AREAER reports. Applied **event-study methods** and found strong cross-country heterogeneity in capital flow sensitivity.

- Combined with **Time series forecasting and ML methodology**, this paper shows that global shocks (↑VIX, USD appreciation) raise the likelihood of inflow restrictions, while domestic FX pressure and current account imbalances lead to outflow controls.

Crypto Shadow Banking: Stablecoins, Crypto Assets and Capital Controls 2025
Job Market Paper

- Developed a large-scale **LLM- and text-based analysis** of U.S. public firms' financial filings (10-K, 8-K, and 20-F; 4,696 firm-year observations, 2015–2025) to detect hidden digital-asset exposure, stablecoin usage and crypto-based capital control bypassing behavior.

- Using **Probit/Logit regressions**, demonstrated that balance-sheet items such as *intangible assets* and *inventories* can proxy for crypto-related corporate activities. These proxies reveal a significant rise in crypto engagement following **equity capital intervention policies**, capturing the emergence of "*crypto shadow banking.*"

- Provided a quantitative model assessing the impact of crypto shadow banking on the stability of the broader financial system.

Bypassing Capital Interventions: Carry Trades via Commodity Futures Market 2023-2024
Accepted at the 2025 CES Meeting and the 2024 SEA Annual Meeting

- Developed a **DSGE model of commodity-collateral financing** to explain how firms and traders bypass formal capital controls by raising offshore funding through commodity markets. Collected and processed 25,000+ commodity futures contracts Demonstrated that liquidity shocks propagate across FX, commodities, and equity markets, creating hidden volatility channels and tail-risk exposures.

- Applied event-study and staggered DID methods to identify the impact of global and domestic liquidity shocks; results show arbitrage returns fall significantly (–0.23) when liquidity tightens, with effects magnified in economies under stricter capital controls.

PUBLICATIONS

Google Scholar

[1] Ahmed R. and Rebucci A. and **Sun G.**, An LLM-based Survey of Stablecoin Podcasts (October 19, 2025). Available at SSRN: https://ssrn.com/abstract=5628451 or http://dx.doi.org/10.2139/ssrn.5628451

[2] **Sun G.**, Liu X., Williams T., et al. Learning to Regulate: A New Event-Level Dataset of Capital Control Measures[J]. arXiv preprint arXiv:2505.23025, 2025.

[3] **Sun G.** Bypassing Capital Interventions: Carry Trades via Commodity Futures Market[J]. Available at SSRN 5077136, 2024.

[4] Guo G. and **Sun G.** RMB Carry Trade and the Theoretical Framework of "Impossible Trinity" Theory: An Empirical Analysis Based on TVP-SV-VAR Model[J]. Finance Forum, 2022

[5] **Sun G.**. An Impact Analysis of the Shanghai Free Trade Zone on Hong Kong's Port Economy. National Circulation Economy[J], 2017(15): 14–15.

CERTIFICATIONS AND MEMBERSHIPS

Student Member of the Center for Economic Research, the AI Economics program, GWU	2025
Certificate of Achievement of AI Agents Fundamentals	2025
JPMorgan Chase & Co.'s Quantitative Research	2024
Coursera deeplearning.ai Deep Learning Specialization	2024
Certification of Supervised Machine Learning Course	2023

HORNORS AND AWARDS

Graduate Merit Fellowship, GWU	2021-2026
John Whitefield Kendrick Graduate Fellowship, GWU	2022-2024
International Exchange Student Scholarship, UIBE	2020
Graduate Merit Fellowship, JUFE	2018
Third Prize at Blue Bridge Cup National Software and Information Technology Competition	2017
Third Prize at National University Internet Finance Application Innovation Competition	2016

Teaching Experience

Teaching Assistant at GWU, ECON 1012 Principle of Macroeconomics	Spring/Fall 2025
Teaching Assistant at GWU, ECON 1012 Principle of Macroeconomics	Spring/Fall 2024
Teaching Assistant at UC GWU, ECON 8366 Macroeconomics I&II(PhD Level)	Spring/Fall 2023
Teaching Assistant at GWU, ECON 1011 Principle of Microeconomics	Spring/Fall 2022
Instructor at GWU, ECON 1011 Principle of Microeconomics	Summer 2022
Teaching Assistant at GWU, ECON 1011 Principle of Microeconomics	Fall 2021

Skills

Programming Languages: MATLAB, Python, Stata, SQL, Excel VBA, Eviews, OxMetric, C, SAS
Deep Learning: Hugging Face, Transformers, OpenAI API, LLM Finetuning
Analytical Skills: Quantitative Programming, Time series/ML Forecasting, Casual Inferences, LLM Prompting/Finetuning
Project Management: Notion
Languages: Mandarin (native), English (fluent)