

Yueliang (Jacques) Lu

Curriculum Vitae

April 2021

📍 Department of Finance (Friday 388), Belk College of Business, University of North Carolina at Charlotte, 9209 Mary Alexander Rd, Charlotte, NC 28262, USA.
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EDUCATION

2018 - 2023	Ph.D. in Finance and Economics Co-advised by Profs. Yufeng Han & Weidong Tian	University of North Carolina - Charlotte GPA: 4.00/4.00
2016 - 2017	M.Sc. in Quantitative Finance & Risk Analytics Advised by Prof. Aparna Gupta	Rensselaer Polytechnic Institute GPA: 3.97/4.00
2012 - 2016	B.A. in Finance and Economics Dual degree in English Language & Literature	Beijing Foreign Studies University

PROFESSIONAL POSITIONS

2018 - 2023	Research/Teaching Assistant , Department of Finance, UNC Charlotte
2019	Summer Research Assistant , Department of Management, UNC Charlotte
2017	Teaching Assistant , Department of Mathematical Sciences, Rensselaer Polytechnic Institute
2017	Summer Research Assistant , Lally School of Management, Rensselaer Polytechnic Institute
2017	Research Fellow , Global Association of Risk Professionals (June 2017 - December 2017)

RESEARCH INTERESTS

- *Asset Pricing*: Empirical (and Theoretical) Asset Pricing, Anomalies, Derivatives and Options, Recovery
- *Financial Risk Management*: Systemic Risk, Longevity Risk, Asset-Liability Management
- *Application of Machine Learning in Finance*: Universal Portfolio

PUBLICATIONS

1. [Addressing Systemic Risk Using Contingent Convertible Debt - A Network Analysis](#), *European Journal of Operational Research*, 2021, Vol 290, Issue 1, pp. 263-277 (with [Aparna Gupta](#) and Runzu Wang).

- **Best Paper Award, FMA Annual Meeting, 2018**
- Best Student Paper Award Finalist, INFORMS Annual Meeting, 2018
- [Masters Research Fellowship, Global Association of Risk Professionals \(GARP\), 2017](#)

WORKING PAPERS

1. [What is the Time Series Regression of the Stock Market Return?](#) (with [Weidong Tian](#))
 - Presented at [CICF 2021 \(Scheduled, July 6-9\)](#),
 - We obtain a derivative-based formula of time series regression coefficients on the stock market return. We introduce a forward contract on a power VIX index (PVIX) calculated by market index options, and obtain a model-free future price of PVIX by using S&P 500 index options, VIX futures, and VIX index options. Our empirical results suggest a negative autocorrelation (resp. beta coefficient) between monthly market return, but the reversal level is relatively small compared to the past market returns, yielding a long-term positive trend (resp. intercept term). Moreover, the autocorrelation coefficients computed using derivatives are primarily comparable to the corresponding statistical measure estimated by historical return data between

two consecutive months; however, the time-series coefficients using derivatives are significant and more sensitive to the market in the volatile period. Finally, we demonstrate that the derivatives market's forward looking information helps predict future market return.

2. [Mispricing and Anomalies: An Exogenous Shock to Short Selling from the Dividend Tax Law Change](#) (with [Yufeng Han](#), [Weike Xu](#) & [Guofu Zhou](#))

- Presented at [SFS Cavalcade North America \(Scheduled, May 24-27\)](#), [MFA 2021](#), [AFA 2021](#), [SFA 2020](#), WashU Olin Finance Brownbag, and UNC Charlotte Finance Seminar
- We study the causal effect of short selling on asset pricing anomalies by exploiting a novel exogenous shock to short selling. After the Job and Growth Tax Relief Reconciliation Act (JGTRRA) of 2003, equity lenders are reluctant to lend shares around the dividend record dates because substitute dividends that they would receive are taxed at ordinary income rates while qualified dividends are taxed at 15 percent, thus creating a negative shock to short selling. Using arguably the most comprehensive set of anomalies to date and the difference-in-differences (DID) regression framework, we find that anomalies become stronger after the dividend record months in the post-JGTRRA periods, driven by stronger mispricing in the dividend record months. We further show that the effect mainly comes from the overpriced stocks. Overall, our results provide strong evidence that most anomalies are likely due to mispricing, with valuation anomalies as an exception.

3. [An On-line Machine Learning Return Prediction](#) (with [Weidong Tian](#))

- Presented at [INFORMS 2020 Annual Meeting](#), [International Risk Management Conference 2020 Annual Meeting](#); Accepted (canceled due to COVID-19) by [FMA European 2020](#) and [EFMA 2020](#).
- This paper presents a new prediction methodology on relative stock index return - the ratio of a stock index return to an interest rate. The prediction methodology relies on the on-line universal portfolio construction. We derive a closed-form predicting formula whose coefficients are solely determined by historical data and demonstrate that the average daily predictive error in 2010-2018 can be as small as 2 percent. This approach provides a promising application of on-line machine learning to return prediction.

WORK IN PROGRESS

1. [Long-term Asset-Liability Management for Variable Annuities](#) (with [Aparna Gupta](#))

- Presented at the [Masters' Scholars Research Program](#), Rensselaer Polytechnic Institute

2. [Certainty Equivalent Interest Rate Parity](#) (with [Lloyd Blenman](#))

CONFERENCE AND SEMINARS

- 2021** SFS Cavalcade North America annual meeting (*Scheduled*)
 China International Conference in Finance (CICF) annual meeting (*Scheduled*)
 Midwest Finance Association (MFA) annual meeting
 American Finance Association (AFA) annual meeting
 UNC Charlotte Finance Seminar
- 2020** Southern Finance Association annual meeting
 Washington University in St. Louis Olin Finance Brownbag
 INFORMS (Virtual) annual meeting
 International Risk Management Conference (IRMC) annual meeting
 European Financial Management Association annual meeting (*Canceled due to COVID-19*)
 Financial Management Association European annual meeting (*Postponed due to COVID-19*)
- 2019** UNC Charlotte Joint Doctoral Workshop
- 2018** INFORMS annual meeting
 INFORMS annual meeting (Best Student Paper Competition)
 Financial Management Association (FMA) annual meeting
 European Financial Management Association (EFMA) annual meeting
 International Risk Management Conference (IRMC) annual meeting

DISCUSSIONS

- 2020** SFA "Range-based Expectations", by Natalie Zhu
 FMA "The Early Exercise Risk Premium", by Kevin Aretzy and Adnan Gazi

PROFESSIONAL SERVICE

- Session Chair** Southern Finance Association Annual Meeting 2020
 Financial Management Association Annual Meeting 2020
- Committee Reviewer** Southern Finance Association Annual Meeting 2021
 Eastern Finance Association Annual Meeting 2021

TEACHING EXPERIENCE

University of North Carolina at Charlotte

Co-Instructor

- FINN 6216 Quantitative Risk Management (with Prof. Weidong Tian) Spring 2021
 - Topic 1: Volatility Trading: Implied volatility, VIX options, VIX futures, and Volatility derivatives pricing
 - Topic 2: Historical Simulation in the risk management (Value-at-Risk), Back testing, Stress testing
 - Topic 3: Credit Risk: Structural (Merton) model, Reduced-Form model, and Altman's Z-Score method

Guest Lecturer

- FINN 3226 Financial Theory & Practice (with Prof. Lloyd Blenman) Spring 2021
 - Topic 1: Binomial Lattices and American Option Pricing

Teaching Assistant

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| 1. BPHD 8220 Financial Economic Theory II (Second-year Ph.D. course) | Fall 2020 |
| 2. BPHD 8200 Financial Economic Theory I (First-year Ph.D. course) | Fall 2020 |
| 3. FINN 6216 Quantitative Risk Management (M.S. in Math Finance) | Spring 2021, 2020 |
| 4. FINN 3226 Financial Theory & Practice | Spring 2021 |
| 5. FINN 3233 International Financial Management | Spring 2020, 2019 |

Rensselaer Polytechnic Institute**Teaching Assistant with Recitations**

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| 1. Math 1010 Calculus I (4-hour recitation class to 120 students per week) | 2017 |
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PROFESSIONAL MEMBERSHIP

American Finance Association (AFA)
 Financial Management Association (FMA)
 Global Association of Risk Professionals (GARP)
 Institute for Operations Research and the Management Sciences (INFORMS)

FELLOWSHIPS, GRANTS, AND AWARDS

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| Ph.D. Graduate Assistantship, University of North Carolina - Charlotte. | 2018 - 2023 |
| Seth Bonder Foundation Student Registration Grant , INFORMS Annual Meeting | 2020 |
| Ph.D. Travel Grant, American Finance Association (AFA) Annual Meeting | 2020 |
| Summer Research Assistantship, University of North Carolina - Charlotte | 2019 |
| Best Paper Award, Financial Management Association (FMA) Annual Meeting | 2018 |
| Best Student Paper Award Finalist, INFORMS Annual Meeting (Finance Section) | 2018 |
| Highlighted on RPI Admissions Website as Outstanding Graduate Scholar (Links) | 2018 |
| Masters Research Fellowship Award, Global Association of Risk Professionals | 2017 |
| Graduate Teaching Assistantship, Rensselaer Polytechnic Institute | 2017 |
| Summer Research Assistantship, Rensselaer New Knowledge and Innovation Program | 2017 |
| Masters' Scholars Research Program Award, Lally School Rensselaer Polytechnic Institute | 2017 |

SKILLS AND CERTIFICATIONS

Certifications FRM Passed Part I and Part II, CFA Level III Candidate, Bloomberg Market Concept Certified.
Technical Skills Numerical/Simulation Analysis, Computational Optimization, Stochastic Calculus, Network Science, Bayesian/Time Series Analysis, Machine Learning.
Programming R, MATLAB, Python, Jupyter Notebook, Stata, Neo4j, Gephi, AMPL, and \LaTeX .
Languages Native in Chinese, fluent in English, and active learner in Spanish.

REFERENCE

Dr. Yufeng Han (Co-Chair)
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Dr. Weidong Tian (Co-Chair)
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