

# Yueliang (Jacques) Lu

## Curriculum Vitae

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

### PROFESSIONAL POSITIONS

2021 - 2023	<b>Lecturer of Finance</b> , Department of Finance, UNC Charlotte
2018 - 2023	<b>Research/Teaching Assistant</b> , Department of Finance, UNC Charlotte
2019	<b>Summer Research Assistant</b> , Department of Management, UNC Charlotte
2017	<b>Teaching Assistant</b> , Department of Mathematical Sciences, Rensselaer Polytechnic Institute
2017	<b>Summer Research Assistant</b> , Lally School of Management, Rensselaer Polytechnic Institute
2017	<b>Research Fellow</b> , 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 [2021 CICF \(China International Conference in Finance, Scheduled, July 6-9\)](#), [7th International Young Finance Scholars' Conference \(Scheduled, July 12-13\)](#), [World Finance Conference 2021 \(Scheduled, August 3-6\)](#)
  - 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](#), [MFA 2021](#), [AFA 2021](#), [SFA 2020](#), WashU Olin Finance Brownbag, and UNC Charlotte Finance Seminar
- Whether or not anomalies are due to mispricing is an important economic question. We examine the *causal* effect of a novel and persistent exogenous shock to short selling, the Job and Growth Tax Relief Reconciliation Act (JGTRRA) of 2003, on an extensive set of 182 anomalies. 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, mainly from the overpriced stocks. Overall, our results show strong evidence that anomalies are likely due to mispricing, providing support to the robustness of the conclusion of Chu, Hirshleifer, and Ma (2020).

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 by [FMA European 2020](#) and [EFMA 2020](#) (cancelled due to COVID-19) .
- 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 (\*presented by coauthors)

- 2021** SFS Cavalcade North America\*  
 China International Conference in Finance (CICF) (*Scheduled*)  
 World Finance Conference (*Scheduled*)  
 International Young Finance Scholars' Conference (*Scheduled*)  
 China International Risk Forum (*Scheduled*)  
 Midwest Finance Association (MFA) Meeting\*  
 American Finance Association (AFA) Meeting (Ph.D. Poster)  
 UNC Charlotte Finance Seminar (x2 papers)
- 2020** Southern Finance Association Meeting  
 Washington University in St. Louis Olin Finance Brownbag  
 INFORMS Annual Meeting  
 International Risk Management Conference (IRMC)  
 European Financial Management Association Meeting (*Cancelled due to COVID-19*)  
 Financial Management Association European Meeting (*Postponed due to COVID-19*)
- 2019** UNC Charlotte Joint Doctoral Workshop
- 2018** INFORMS Annual Meeting (Financial Engineering Session & Best Student Paper Competition)  
 Financial Management Association (FMA) Meeting\*  
 European Financial Management Association (EFMA) Meeting\*  
 International Risk Management Conference (IRMC) Meeting\*

## PROFESSIONAL SERVICE

### Conference Discussions

- 2021: World Finance Conference (*Scheduled*)  
 2020: Financial Management Association Meeting, Southern Finance Association Meeting

### Conference Session Chair

- 2020: Financial Management Association Meeting, Southern Finance Association Meeting

### Conference Paper Reviewer

- 2021: Southern Finance Association Meeting, Eastern Finance Association Meeting

## FELLOWSHIPS, GRANTS, AND AWARDS

Ph.D. Graduate Assistantship, University of North Carolina at Charlotte	2018 - 2023
Belk College Summer Research Grant, University of North Carolina at Charlotte	2021
<a href="#">Seth Bonder Foundation Student Registration Grant</a> , INFORMS Annual Meeting	2020
Ph.D. Travel Grant, <a href="#">American Finance Association (AFA)</a> Annual Meeting	2020
Summer Research Assistantship, University of North Carolina - Charlotte	2019
Best Paper Award, <a href="#">Financial Management Association</a> (FMA) Annual Meeting	2018
Best Student Paper Award Finalist, INFORMS Annual Meeting (Finance Section)	2018
Highlighted on RPI Admissions Website as Outstanding Graduate Scholar ( <a href="#">Links</a> )	2018
Masters Research Fellowship Award, <a href="#">Global Association of Risk Professionals (GARP)</a>	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

## TEACHING

### University of North Carolina at Charlotte

#### Lecturer of Finance

1. FINN 3120 Financial Management Summer & Fall 2021
  - Key topics include: The Time Value of Money, Discounted Cash Flow Valuation, Interest Rates and Bond Valuation, Equity Markets and Stock Valuation, Risk and Return, and Cost of Capital

#### Guest Lecturer

1. 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
  - Recitation class: 2-hour class, and four times per semester
2. FINN 3226 Financial Theory & Practice (with Prof. Lloyd Blenman) Spring 2021
  - Topic 1: Binomial Lattices and American Option Pricing

#### Teaching Assistant

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

1. Math 1010 Calculus I (with 4-hour recitation class to 120 students per week) 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 Languages** R, MATLAB, Python, Jupyter Notebook, Stata, Neo4j, Gephi, AMPL, and  $\text{\LaTeX}$ .
- Native in Chinese, fluent in English, and active learner in Spanish.**

## 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)

**REFERENCE**

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Dr. Weidong Tian (Co-Chair)  
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