

# Yueliang (Jacques) Lu, FRM

## Curriculum Vitae

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## EDUCATION

**Ph.D. in Business Administration (Finance)**, University of North Carolina at Charlotte 2023 (*Expected*)

- Chairs: [Yufeng Han](#) & [Weidong Tian](#) (Co-Chair)
- Committee Members: [Ethan Chiang](#), [Steven P. Clark](#) and [Christopher M. Kirby](#)
- Informal Advisor: [Guofu Zhou](#) (WashU)

**Master of Science in Quantitative Finance and Risk Analytics**, Rensselaer Polytechnic Institute 2017

- Advisor: [Aparna Gupta](#)

**Bachelor of Art in Economics, Major: Finance**, Beijing Foreign Studies University 2016

## RESEARCH INTERESTS

- Empirical (and Theoretical) Asset Pricing, Derivatives and Options, Big Data/Machine Learning in Finance

## PUBLICATION

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](#))

- 2018 FMA Best Paper Award in Derivatives & Options
- 2018 INFORMS Best Student Paper Award Finalist (Finance Section)
- 2017 GARP Research Fellowship

## JOB MARKET PAPER

1. [Macroeconomic Extrapolation, Machine Learning, and Equity Risk Premium Forecast](#) (with [Yufeng Han](#))

- Presentations: [2022 FMA](#), [2022 FMA Doctoral Consortium](#), [2022 International Symposium on Forecasting](#)
- Studies on equity risk premium forecasts usually rely on the most recent macroeconomic variables. We present a macroeconomic trend extrapolation approach that utilizes economic fundamentals of different time periods simultaneously in the aggregate market. We demonstrate that the trend-pooling method statistically and economically outperforms the historical average that assumes a constant equity risk premium, as well as [Rapach, Strauss, Zhou's \(2010\)](#) simple pooling method that ignores the historical information in macroeconomics. We further find that combining trend extrapolation with neural networks generates monthly out-of-sample  $R^2_{OS}$  statistics as high as 4%. Pooling the time-series trends more closely tracks important macroeconomic fluctuations and more effectively regulates the forecast variability, thereby generating superior and robust forecasting gains consistently over time.

## WORKING PAPERS & WORK IN PROGRESS

1. [Market Risk Premium Expectation: Combining Option Theory with Traditional Predictors](#) (with [Hong Liu](#), [WeiKe Xu](#) & [Guofu Zhou](#))

- Presentations: WashU Brownbag

- The market risk premium is central in finance, and has been analyzed by numerous studies in the time-series predictability literature and by growing studies in the options literature. In this paper, we provide a novel link between the two literatures. Theoretically, we derive a lower bound on the market risk premium in terms of option prices and state variables. Empirically, we show that combining information from both options and investor sentiment significantly improves the out-of-sample predictability of the market risk premium versus using either type of information alone, and that adding an economic upper bound raises predictability further.
2. [Equity Forward Return from Derivatives](#) (with [Weidong Tian](#) & [Steven P. Clark](#)), *Under Review*
    - Presentations: [CICF 2021](#), [AFA 2022](#), [FMA 2022](#)
    - This paper develops a theory of forward returns for an equity index. We obtain the forward returns using information from derivatives markets, including index option prices and gammas, VIX-futures, and prices of VIX-options. We document a pro-cyclical term structure of S&P500 forward returns and a robust short-term reversal pattern. Moreover, by designing and implementing a market-timing strategy, we demonstrate that forward equity returns provide real-time trading signals with substantial economic value.
  3. [Mispricing and Anomalies: An Exogenous Shock to Short Selling from JGTRRA](#) (with [Yufeng Han](#), [Weike Xu](#) & [Guofu Zhou](#)), *Under Review*
    - Presentations: [SFS Cavalcade North America 2021](#), [AFA 2021](#), [MFA 2021](#), [CICF 2022](#)
    - Whether anomalies are due to mispricing or risk is an important question. We study the causal effect of short-sale constraints on anomalies by examining an extensive set of 182 anomalies documented in the accounting, finance and economics literature. Our identification strategy relies on a persistent, robust and plausibly exogenous shock to short-selling supply induced by the dividend tax law change in the Job and Growth Tax Relief Reconciliation Act (JGTRRA) of 2003. We find that anomalies become stronger following the dividend record months, driven by stronger overpricing as opposed to underpricing in the post-JGTRRA periods. Interestingly, while the shock magnifies returns to most anomaly types, we find that valuation anomalies seem unlikely to be driven by mispricing.
  4. [An On-line Machine Learning Return Prediction](#) (with [Weidong Tian](#)), *Revise & Resubmit*
    - This paper presents a new prediction methodology for long-short portfolio return in its multiplicative version. Our method relies on the on-line universal portfolio construction. We derive a closed-form predicting formula whose coefficients are solely determined by historical data. We empirically and robustly demonstrate that the predictive error can be as small as 2%. This methodology provides a promising application of on-line machine learning to portfolio return prediction with a sufficiently large dataset.
  5. Reconciliation Forecasts (under empirical analysis stage)

## TEACHING

### University of North Carolina at Charlotte

#### Lecturer and Guest Lecturer\*

1. FINN 3226 Financial Theory and Practice (*Advanced Corporate Finance*)
  - Evaluation: 4.78 (4.39, Finance section mean)
2. FINN 3120 Financial Management
  - Evaluation: 4.45 (4.22), 4.35 (4.25), 4.40 (4.20)
3. FINN 6216 Quantitative Risk Management\* (*MS in Math Finance*, with Prof. Weidong Tian)
4. FINN 3223 International Financial Management\* (with Prof. Lloyd Blenman)

## CONFERENCES AND SEMINARS

- 2022** FMA (x2 papers), CICF, AFA, WashU Brownbag, International Symposium on Forecasting
- 2021** SFS Cavalcade North America, CICF, AFA, MFA, FMA
- 2020** WashU Brownbag, SFA, INFORMS, IRMC
- 2018** FMA, INFORMS, EFMA, IRMC

## FELLOWSHIPS, GRANTS, AND AWARDS

- 2022** UNC Charlotte Belk College Summer Research Grant
- 2021** UNC Charlotte Belk College Summer Research Grant
- 2020** AFA Ph.D. Travel Grant
- 2020** INFORMS Ph.D. Student Grant
- 2018** FMA Best Paper Award in Derivatives & Options
- 2018** INFORMS Best Student Paper Award Finalist (Finance Section)
- 2017** Global Association of Risk Professionals (GARP) Research Fellowship

## PROFESSIONAL SERVICE

### Journal Referee

- International Review of Economics & Finance

### Conference Discussant & Chair & Paper Reviewer

- 2022** FMCG (x2 papers), CIRF, Derivative Markets Conference
- 2021** FMA (x2 papers), SFA, EasternFA
- 2020** FMA, SFA

## CERTIFICATIONS

- Certified Financial Risk Manager (FRM), Global Association of Risk Professionals (GARP)
- Chartered Financial Analyst (CFA), Level III candidate
- Bloomberg Market Concepts (BMC) Certified

## REFERENCES

### Yufeng Han (Chair)

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University of North Carolina at Charlotte  
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### Christopher M. Kirby

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### Weidong Tian (Co-Chair)

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### Steven P. Clark

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### Guofu Zhou

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