Kangying Zhou

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EDUCATION

YALE UNIVERSITY New Haven, CT
Ph.D. in Financial Economics *Sep. 2019 – Present*

- Major focus of study: Asset Pricing, Financial Econometrics, Machine Learning
- Courses: Empirical Asset Pricing, Financial Economics, Empirical Corporate Finance, Household Finance, Continuous-Time Finance, Mathematical Economics, Behavioral Finance, Applied Empirical Methods, Econometrics, Microeconomics, Macroeconomics

THE UNIVERSITY OF CHICAGO Chicago, IL
Master of Science in Financial Mathematics *Sep. 2016 – Dec. 2017*

- GPA: 3.7/4.0

HUAZHONG UNIVERSITY OF SCIENCE AND TECHNOLOGY (HUST) Wuhan, China
Bachelor of Science in Economics *Sep. 2012 – Jun. 2016*

- GPA: 3.7/4.0, Class rank: 1/30

RESEARCH & PROJECTS

Maximum Sharpe Ratio Regression *Feb. 2021 – Present*

- Introduce a simple and flexible method for integrating predictive signals into mean-variance efficient portfolios
- Embed machine learning models within the portfolio weight specification to accommodate cross-asset restrictions and non-linear signal transformations

Information Shocks to Bilateral Exchange Rates *Oct. 2020 – Dec. 2020*

- Propose a factor model to study how country-specific information shocks and global information shocks explain bilateral exchange returns
- Derived from country-level log nominal SDF, the factor model explains foreign exchange log returns by four factors: the foreign country-specific news factor, the home country-specific news factor, the global information shock factor, and the risk-free rate difference between the foreign country and the home country
- In the empirical analysis, the factor model has adjusted R squared between 4.86% and 27.00% for 15 countries, with an average of 16.82%

The Topic-Sentiment-Return (TSR) Model for Return Prediction *Jan. 2020 – Oct. 2020*

- Introduce a new textual analysis methodology, topic-sentiment-return (TSR) model, to capture the topic structure and topic-specific sentiments from financial news articles for return prediction
- Given a news article, the TSR model identifies the topic weights and the sentiment in each topic, then aggregates the topic structure and topic-specific sentiments to generate an article-level predicted return
- The estimation methodology is a supervised learning framework based on Latent Dirichlet Allocation (LDA)

EXPERIENCE

THE UNIVERSITY OF CHICAGO Chicago, IL
Research Assistant for Prof. Dacheng Xiu *May. 2017 – Jul. 2019*

- Introduce a new text-mining methodology that extracts sentiment information from news to predict asset returns, and show that the model excels at extracting return-predictive signals in news context in empirical analysis
- Apply a unified latent space model to measure co-movements between stock daily returns and news word frequency, solve the model by ADMM algorithm, and get prediction accuracy of 56%

BLOOMBERG LP New York, NY
Data Analyst in CTO Office *Apr. 2019 – Jul. 2019*

- Extract firm links from SEC filings and news
- Construct a momentum factor model to predict stock returns by firm links

SHEFFIELD ASSET MANAGEMENT L.L.C. Chicago, IL
Quantitative Analyst at Long/Short Equity Hedge Fund *Feb. 2018 – Mar. 2019*

- Manage a team of five to develop a sentiment trading strategy by Natural Language Processing (NLP), the strategy was adopted by the company to screen stocks and manage risk

TECHNICAL SKILLS

- C++, Python, R, MATLAB, SQL Server, STATA, Latex, MS Office

Personal Statement

Kangying Zhou

My interests in artificial intelligence focus on the application of textual analysis and machine learning to asset pricing.

With textual analysis techniques, massive news data becomes available for asset pricing research. In my first-year paper, a textual analysis methodology, the topic-sentiment-return (TSR) model, was introduced to capture the topic structure and topic-specific sentiments from financial news articles for return prediction. Given a news article, the TSR model identifies the topic weights and the sentiment in each topic, then aggregates the topic structure and topic-specific sentiments to generate an article-level predicted return. An estimation methodology was developed as a supervised learning framework based on Latent Dirichlet Allocation (LDA). In another project, I studied a new text-mining methodology that extracts sentiment information from news articles to predict asset returns. This research first isolates a list of sentiment terms via predictive screening, then aggregates terms into an article-level sentiment score via topic modeling and penalized likelihood. In an empirical analysis, a simple trading strategy demonstrates that the news sentiment scores outperform scores from a widely-used commercial vendor in predicting future price moves by a large margin.

Besides, I am also interested in developing some machine learning models for asset pricing. Under the supervision of Prof. Bryan Kelly, I am working on a Maximum Sharpe Ratio Regression methodology for the research about portfolio construction, which generates mean-variance efficient portfolios from predictive signals. With the data in Jensen, Kelly, and Pedersen (2021), the out-of-sample Sharpe Ratio from Jan 2000 to Dec 2019 is 2.54.

Apart from the current projects, I want to apply artificial intelligence techniques to other finance fields, such as behavioral finance and corporate finance. Based on my research experience and research interest, I sincerely hope to join your distinguished camp and contribute to this field with the camp's resources.