Xuecan (Emma) CUI

Office 201, Institute of Financial Studies
Southwestern University of Finance & Economics
No 55, Guanghuacun Street
Chengdu, China 610074
cuixc@swufe.edu.cn
www.cuixuecan.com

Research Interests

Finance Theory, Information Economics, Systemic Risk, Financial Econometrics and FinTech

Experience

2018-now Associate Professor of Finance (Tenure Track), Institute of Financial Studies (IFS), Southwestern University of Finance and Economics (SWUFE), Chengdu, China

Spring 2019 Visiting Scholar in Olin Business School, Washington University in St. Louis, Missouri, United States.

2018-2018 Assistant Professor of Finance (Tenure Track), IFS, SWUFE, Chengdu, China

2017-2018 Postdoctoral Reseacher, Grenoble Ecole de Management, Grenoble, France.

Education

Ph.D. in Finance, Luxembourg School of Finance, University of Luxembourg, 09/2017
Jury Members: Prof. Jang Schiltz (Supervisor), Prof. Rajnish Mehra, Prof. Thorsten Lehnert, Prof. Aleš Černý, Prof. Ulf von Lilienfeld-Toal

Visiting Ph.D. Student, Cass Business School, City University of London, Spring 2016

M.Sc. Finance and Economics, University of Luxembourg, 07/2013

M.Sc. Financial Mathematics, University of Luxembourg, 07/2012

B.Sc. Applied Mathematics, Tongji University, Shanghai, China, 07/2010

Publication

Impact of Systemic Risk Regulation on Optimal Policies and Asset Prices, with Carole Bernard, forthcoming at **Journal of Banking and Finance**.

Working Papers

Incentives for Traders: Ideal and Heuristic Contracts (with Philip H. Dybvig)

Admati and Pfleiderer (1997) show that linear contracts for portfolio managers do not create incentives for effort, because the manager can undo any increase in slope of the contract by choosing less portfolio risk. Dybvig, Farnsworth, and Carpenter (2010) use the revelation principle to solve a portfolio agency problem, and their solution creates incentives for effort even if the contract is linear because portfolio choice is not completely flexible. However, their idealized model is inappropriate for a trader, since either the trade is executed by a third party or there is a constraint on the portfolio that is infeasible if the market is not really frictionless or the other model assumptions are not exactly true. In this paper, we develop heuristic rules that do give incentives for effort to traders who obtain market information and execute trading, and they come close to the constrained optimum in the corresponding idealized model. The primary incentive for effort comes from a penalty for realized squared return on the underlying asset, which implicitly penalizes the trader for not expending enough effort and choosing a relatively passive portfolio.

The (Un)Importance of Small Jumps in Lévy Model Option Pricing (with Aleš Černý)
Option pricing literature argues that the behaviour of small jumps in a Geometric Lévy model is of paramount importance. This is evidently true for very short time horizons and very deep in- and out-of-the-money options. In this paper, we took the complementary view and asked what values of time to maturity and option moneyness in a Geometric Lévy model lead to option prices that are practically indistinguishable from the price of plain vanilla options in the Black-Scholes model. In other words, when the Lévy model in question can be replaced with a Brownian motion with minimal pricing error. We produced explicit tight bounds in the case of a Poisson jump process and related heuristic bounds for arbitrary Lévy process with exponentially decaying jump intensity. We tested the latter for tempered stable process of Boyarchenko and Levendorskiĭ 2002.

Asset Pricing Model with underlying Time-Varying Lévy Processes
This paper proposed a novel equilibrium asset pricing model under general jump diffusion framework, including time-varying nonparametric drift, volatility and jump intensity. The corresponding pricing kernel provides insights on option pricing, equity premium puzzle. The analytical solutions of equity premium and European call option were given as well. In addition, by combining Hodrick-Prescott filter and particle filters, I applied the proposed method on the S&P500 index, and found evidences supporting the proposed general jump diffusion asset pricing model. I further observed the clustering of volatility and jumps, though the clustering effects are more pronounced when the time-varying drift is negative.

Conferences & Workshops

- 7th National Annual Conference of Probability, Shandong, China, August 2022. (scheduled)
- Southern Finance Association (SFA) 2021, FL, US, November 2021. (accepted)
- European Conference on Operational Research (EURO), Athens, Greece, July 2021. (accepted)
- 10th General AMaMeF Conference, online, June 2021.
- 37th Annual Conference of the French Finance Association (AFFI), online, May 2021.*
- IFS conference, SWUFE, online, July 2020.
- IFS conference, SWUFE, Chengdu, China, July 2019.
- Bachelier World Congress 2018, Dublin, Ireland, July 2018 (accepted).
- IFS conference, SWUFE, Chengdu, China, July 2018.
- 35th AFFI conference, Paris, France, May 2018.
- 8th General AMaMeF Conference, Amsterdam, the Netherlands, June 2017.
- 9th Summer School in Financial Mathematics, St. Petersburg, Russia, September 2016.
- FMA Asia/Pacific, Ph.D. consortium, Sydney, Australia, July 2016.
- Bachelier World Congress, New York, US, July 2016.*
- Asian Quantitative Finance Conference, Osaka, Japan, February 2016.
- Liège Ph.D. workshop, Liège, Belgium, October 2015.
- Stochastic and Computational Finance Conference, Lisbon, Portugal, July 2015.

(*: presented by coauthor)

Session Chair

- 10th General AMaMeF Conference, online, June 2021.

Discussions

- 37th Annual Conference of the French Finance Association (AFFI), online, May 2021.
- 35th AFFI conference, Paris, France, May 2018.

Seminars

- University of Sydney, online, September 2021.
- Grenoble Ecole de Management, Grenoble, France, October 2017.
- Institute of Financial Studies, SWUFE, Chengdu, China, July 2017.
- University of Glasgow, online, November 2016.
- Luxembourg School of Finance Brown Bag Seminar, Luxembourg, November 2015.

Refereeing and reviewing

- *Annals of Operations Research*,
- *Journal of Economic Dynamics & Control*,
- *Finance Research Letters*,
- *Finance* (Journal of the French Finance Association).

Other

Consultant for *Chengdu Municipal Bureau of Economic and Information Technology* on Finance and FinTech, April 2021.

Invited talk on *Introduction to Cryptocurrency* at Institute of Chinese Financial Studies (ICFS) Summer Camp, SWUFE, July 2019.

Research Grant and Scholarship

2013-2017 AFR PhD Grant, Luxembourg National Research Fund

2010-2011 Luxembourg Government Scholarship

Teaching

Computational Finance, Undergraduate, RIEM, SWUFE.
Spring 2022

Investment, Undergraduate, School of Finance, SWUFE.
Fall 2021, Fall 2020, and Fall 2019

Financial Institutions Risk Management, Undergraduate, Research Institute of Economics and Management (RIEM), SWUFE.
Fall 2021, Fall 2020, Fall 2019, and Fall 2018

Introduction to Business Finance, International Undergraduate, Sichuan University.
Spring 2021

Corporate Finance, Undergraduate, RIEM, SWUFE.
Fall 2018

International Financial Risk Management, Master course, Grenoble Ecole de Management.
January 2018

Financial Applications using Excel, Master course, University of Luxembourg.
Fall 2016 and Fall 2015

Probability and Statistics (TA), Bachelor course, University of Luxembourg.
Spring 2015 and Spring 2014

Languages

English (proficient), Mandarin (native), French (intermediate), German (basic)

Software

Python, R, Matlab, SAS, C++, LaTeX, MS Office

References

upon request

This version: updated on July 19, 2022.