

University of Macau

Faculty of Science and Technology

Department of Mathematics

FST-SEM/00072/2015

Optimal Trading in the Dynamic Market

By

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Date: 21 August 2015 (Friday)

Time: 10:30 a.m. – 12:00 p.m.

Venue: E11- 1009

Abstract

In this talk, we discuss a discrete-time model where the underlying asset price is subject to stochastic volatility and liquidity for optimal trade execution. This model is an extension of Almgren and Chriss' model. Instead of the mean-variance criterion, we consider the mean-quadratic criterion for choosing the optimal strategy through applications of Markov decision processes. We carry out a numerical analysis by Monte Carlo simulation and provide detailed comparison results under various risk aversion criteria. Finally, we change the lever range for the risk aversion and compare the performance between the mean-quadratic, the mean-variance, and the expected exponential cost.

Biography

Prof. Yiqiang Q. Zhao attended Nanjing University of Information Science and Technology (formerly Nanjing Institute of Meteorology, China), from which he received a bachelor degree. He came to Canada to pursue his graduate studies in 1986, first as a master's student in the Department of Mathematics and Statistics at the University of Saskatchewan, and then transferred to a Ph.D. program in 1987. In less than three years he received his Ph.D. degree. After a two-year appointment as a Postdoctoral Fellow sponsored by the Canadian Institute for Telecommunications Research (CITR) at Queen's University, he joined the Department of Mathematics and Statistics of the University of Winnipeg as an Assistant Professor in 1992, and became an Associate Professor in 1996. In 2000, he joined Carleton University as an Associate Professor in the School of Mathematics and Statistics and became a Full Professor in 2003. He was the Director of the School from 2004 to 2007, and from 2010 to 2011. He is currently the Co-Director at Carleton of the Ottawa-Carleton Institute of Mathematics and Statistics (OCIMS), a joint program of graduate studies and research in Mathematics and Statistics for Carleton University and the University of Ottawa.

Prof. Zhao's research interests are in applied probability and stochastic processes, with particular emphasis on computer and telecommunication network applications. He has published over 90 papers in internationally-refereed journals. He has delivered over 60 presentations at conferences and has been invited more than 50 times to give talks at seminars/colloquia or workshops.

Prof. Zhao has taught approximately 30 different courses at various

undergraduate and graduate levels at three Canadian universities (Carleton, Queen's and Winnipeg). More than 70 graduate (master's or Ph.D.) students or postdoctoral fellows have been supervised by him since 2000. He was awarded the Carleton Faculty of Science Teaching Award for 2002-2003, and twice recommended for the most welcomed teacher by Carleton graduate students.

Besides serving the School of Mathematics and Statistics, Carleton University as a former Director. Prof. Zhao also served as Chair/Vice Chair of important committees of the University/School/Department; Board member of the Fields Institute; President-Elect, President and Past-President of the Probability Section of Statistical Society of Canada; Executive of the Faculty Association (Winnipeg); President and Vice-president/Treasurer of the Canadian Operational Research Society Winnipeg Chapter; and Chair/organizer of many international conferences (or sessions of conferences).

Prof. Zhao has also had considerable experience interacting with industry. He has been the recipient of a number of grants from the Natural Sciences and Engineering Research Council of Canada (NSERC), and his research has also been supported by Alcatel, Communications Research Centre (CRC) Canada, Nortel, Mathematics of Information Technology and Complex Systems (MITACS) and the National Capital Institute of Telecommunications (NCIT). He is currently an editor of the journal Stochastic Models, and an associate editor of the journals Queueing Systems and OR Letters.

All are Welcome!

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