

# JINYUAN ZHANG

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## EDUCATION

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Ph.D. in Finance, INSEAD	2015 - 2020 ( <i>expected</i> )
M.Sc. in Statistics, University of British Columbia	2013 - 2015
B.Sc. in Risk Management Science, The Chinese University of Hong Kong	2009 - 2013

## RESEARCH INTERESTS

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- Information Economics, Mutual Fund, FinTech, Financial Econometrics

## PUBLICATIONS

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- [1] **Conditional Extremes in Asymmetric Financial Market**, with Natalia Nolde  
*Forthcoming, Journal of Business & Economic Statistics*  
*Presented at the 49th Actuarial Research Conference, the 10th SoFiE Pre-Conference for Young Scholars*
- Abstract: The latest global financial crisis revealed the great extent to which systemic risk can jeopardize the stability of the entire financial system. An effective methodology to quantify systemic risk is at the heart of the process of identifying the so-called systemically important financial institutions for regulatory purposes as well as to investigate key drivers of systemic contagion. The paper proposes a method for dynamic forecasting of CoVaR, a popular measure of systemic risk. As a first step, we develop a semi-parametric framework using asymptotic results in the spirit of extreme value theory (EVT) to model the conditional probability distribution of a bivariate random vector given that one of the components takes on a large value, taking into account important features of financial data such as asymmetry and heavy tails. In the second step, we embed the proposed EVT method into a dynamic framework via a bivariate GARCH process. An empirical application to 99 large US financial institutions is conducted to demonstrate and compare the performance relative to a very flexible fully parametric alternative.
- [2] **Bounds on Capital Requirements for Bivariate Risk with Given Marginals and Partial Information on the Dependence**, with Carol Bernard, Yuntao Liu and Niall MacGillivray  
*Published in Dependence Modeling 1 (2013): 37-533): 37-53*

## WORKING PAPERS

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- [3] **The Rise of Passive Funds Triggers Active Fund Consolidation**  
*Presented at INSEAD Brownbag, 2018 CICF, 2018 TADC*
- Abstract: Consolidation among asset managers surged recently. What triggered this new wave of consolidation? Through a noisy rational expectation model with imperfect competition, we show that the rise of passive funds could attribute to the new change. As the size of passive funds grows,

the market becomes more liquid. As a result, the rents extracted from noise traders shrinks and the competition among active funds becomes severer. These effects squeeze down the expected profit margins of active funds, hence stimulating them to form a coalition to gain monopolistic trading power. The rise of passive funds affects market outcomes (liquidity, price informativeness and volatility) both directly and indirectly through fund consolidation. The aforementioned two mechanisms have competing effects. Hence it is essential to control for fund consolidation when examining the (casual) relationship between passive funds and market outcomes.

- [4] **Dynamic Trade Informativeness**, with Bart Zhou Yueshen

*Presented at INSEAD Brownbag, 2018 QFFE, 2nd European Capital Market workshop, 2018 MI3 Conference*

- Abstract: This paper develops a structural model to examine price dynamics. The innovation lies in that trades permanent price impact are allowed to be time-varying dynamic trade informativeness. A novel, distribution-free filtering technique pins the real-world data to the model. The filtered series demonstrate that the time-variation of trade informativeness accounts for a quarter of efficient price innovation; capture the intraday pattern of information asymmetry; improve the explanatory power of current trades for future returns; provide a lens to examine informed trading around intraday events; and gauge informed investors patience. The framework contributes to the better utilization of high-frequency trading data.

- [5] **A Revisit to Capital Control Policies When Bitcoin Is in Town**, with Yang (Gloria) Yu

*Presented at INSEAD Brownbag, 2017 Shanghai Fintech Conference, INSEAD-Wharton Doctoral Consortium, 2018 CICF, FinTech Conference in Bergen*

- Abstract: This paper presents a novel notion of Law of One Price violation between Bitcoin (BTC) and Foreign Exchange markets. We first document the magnitude and statistical properties of the trading gains of triangle arbitrage which results from the price discrepancy among BTC, US dollars, and another fiat currency. We further show that violations increase in the capital control intensity of the arbitrage-linked countries. We argue that this triangular arbitrage opportunity, originating from the price gap of the domestic currency between two markets, incorporates information about local investors demand for the domestic currency. When economic and political uncertainties surge in the home country, the gap widens. We further test the predictability of our gap measure for foreign exchange markets and find that the predictability peaks in three days and decays afterward. The pattern is stronger in recent years. We provide suggestive evidence that this predictability reflects a real shift in the demand for domestic currency without future reversals.

- [6] **Investigating the Air Travel Demand for Emerging but Regulated Aviation Market - the Case of China**, with Xiaowen Fu, Tae Oum, Kun Wang

- This study develops a BLP-type discrete choice model to study the air travel demand and airline competition in China. The developed method explicitly considers the potential effects of legacy regulations on airlines competition behavior in the domestic market. It is found that airlines set prices collusively on the dense routes with strict market regulation and severe airport congestion. Airlines however compete more aggressively on less travelled routes with relatively light regula-

tion. The model incorporating possible regulation effects is found to produce better estimation and predication results compared with specifications simply assuming Bertrand or Cournot airline competition. Demand estimates indicate that air travelers in China exhibit very similar preferences to those in developed and deregulated markets in terms of price elasticity, valuation of flight frequency and degree of aversion to airport congestion. Such findings are likely due to the fact that air travel in China has been mainly consumed by business and high-income groups, and the low cost carrier sector is yet to achieve its full potential.

## CONFERENCES

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[\*] = *co-author presentation*, [+] = *discussion*

2018: 2018 China International Conference in Finance, Tianjin, China [3]; 2018 Trans-Atlantic Doctoral Conference, London, UK [3]; Quantitative Finance and Financial Econometrics, Marseille, France [4]; 2nd European Capital Market workshop [4]; 2nd CEPR-Imperial-Plato Market Innovator (MI3) Conference 2018, London, UK [4]; 2018 China International Conference in Finance, Tianjin, China [5]\*; FinTech Conference in Bergen University, Bergen, Norway [5]\*,+

2017: 10th SoFiE Pre-Conference for Young Scholars, New York, US [1]; Shanghai FinTech Conference, Shanghai, China [5]\*; INSEAD-Wharton Doctoral Consortium, Philadelphia, US [5]

2014: 49th Actuarial Research Conference [1]

## TEACHING EXPERIENCE

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- Tutorial instructor for Corporate Financial Policies (MBA Core Finance), INSEAD, 2016 2017
- Tutorial instructor for Introductory Probability and Statistics, UBC 2014
- Tutorial instructor for Introduction to Probability, UBC 2013

## SKILLS

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<b>Language:</b>	English (Fluent), Mandarin (Native), and Cantonese (Fluent)
<b>Computer Skills:</b>	MATLAB, Fortran, Gauss, Stata, R, VBA, Python, C, C++, Java, and Bloomberg