Chaojun Wang

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EMPLOYMENT

2017 – Assistant Professor of Finance, Wharton School of the University of Pennsylvania

EDUCATION

2017	Stanford University, Ph.D. in Statistics, Ph.D. Minor in Economics
2012	École Polytechnique (France), Diplôme de l'École Polytechnique
2008	Lycée Faidherbe (France), Classe Préparatoire (Mathematics, Physics and CS)

WORKING PAPERS

Size Discount and Size Penalty: Trading Costs in Bond Markets *(with Gabor Pinter and Junyuan Zou)*, 2021

We show that larger trades incur lower trading costs in government bond markets ("size discount"), but costs increase in trade size after controlling for clients' identities ("size penalty"). The size discount is driven by the cross-client variation of larger traders obtaining better prices, consistent with theories of trading with imperfect competition. The size penalty, driven by within-client variation, is larger for corporate bonds and during major macroeconomic surprises as well as during COVID-19. These differences are larger among more sophisticated clients, consistent with theories of asymmetric information. We propose a trading model with bilateral bargaining and adverse selection to rationalize the co-existence of the size penalty and discount.

Information Chasing versus Adverse Selection *(with Gabor Pinter and Junyuan Zou)*, 2020

Contrary to the prediction of the classic adverse selection theory, a more informed trader receives better pricing relative to a less informed trader in over-the-counter financial markets. Dealers aggressively chase informed orders to better position their future quotes and avoid winner's curse in subsequent trades. On a multi-dealer platform, dealers' incentive of information chasing exactly offsets their fear of adverse selection. In a more general setting of OTC trading, information chasing can dominate adverse selection when dealers face differentially informed speculators, while adverse selection always dominates when dealers face differentially informed trades from a given speculator. These two predictions---which contrast sharply with each other---both find strong empirical support in the UK government bond market.

Why Trade Over-the-Counter? When Investors Want Price Discrimination *(with Tomy Lee)*, 2018

We show that trading over-the-counter is privately optimal yet can harm welfare even if its prices were competitive. Dealers price discriminate to the benefit of traders who are less likely to be informed, thereby cream-skimming them into the OTC market and leaving adverse selection risk concentrated on exchanges. Traders who are induced to trade by better OTC prices have smaller gains from trade than those who exit due to worse prices on the exchanges. Therefore, the entrants are mere "cheap substitutes" for the exiters, rendering trade volume and bid-ask spreads poor indicators of welfare. We also document and explain a positive correlation between the exchanges' spread and their market share.

Given this pattern, perhaps surprisingly, we show that allowing OTC trading harms welfare for assets that are mostly OTC-traded, such as swaps.

Core-Periphery Trading Networks, 2016

Core-periphery trading networks arise endogenously in over-the-counter markets as an equilibrium balance between trade competition and inventory efficiency. A small number of firms emerge as core dealers to intermediate trades among a large number of peripheral firms. The equilibrium number of dealers depends on two countervailing forces: *(i)* competition among dealers in their pricing of immediacy to peripheral firms, and *(ii)* the benefits of concentrated intermediation for lowering dealer inventory risk through dealers' ability to quickly net purchases against sales. For an asset with a lower frequency of trade demand, intermediation is concentrated among fewer dealers, and interdealer trades account for a greater fraction of total trade volume. These two predictions are strongly supported by evidence from the Bund and U.S. corporate bond markets. From a welfare viewpoint, I show that there are too few dealers for assets with frequent trade demands, and too many for assets with infrequent trade demands.

Efficient Contracting in Network Financial Markets *(with Darrell Duffie)*, 2015

We model bargaining in over-the-counter network markets over the terms and prices of contracts. Of concern is whether bilateral non-cooperative bargaining is sufficient to achieve efficiency in this multilateral setting. For example, will market participants assign insolvency-based seniority in a socially efficient manner, or should bankruptcy laws override contractual terms with an automatic stay? We provide conditions under which bilateral bargaining over contingent contracts is efficient for a network of market participants. Examples include seniority assignment, close-out netting and collateral rights, secured debt liens, and leverage-based covenants. Given the ability to use covenants and other contingent contract terms, central market participants efficiently internalize the costs and benefits of their counterparties through the pricing of contracts. We provide counterexamples to efficiency for less contingent forms of bargaining coordination.

PRESENTATIONS

2022 Conferences: AFA (scheduled)

2021 Conferences: Finance Theory Webinar, SFS Cavalcade North America, FIRS (scheduled), EFA (scheduled), CICF* (scheduled), Stern/Salomon Microstructure Conference*, World Symposium on Investment Research *, INSEAD Finance Symposium*

Seminars: INSEAD

2020 Conferences: AFA, Market Microstructure Exchange, Finance Theory Group Meeting, Microstructure Online Seminars Asia Pacific, Australian Finance & Banking Conference

Seminars: University of Washington Foster School of Business

2019 Conferences: UBRI Connect, Philadelphia Search and Matching Workshop, FML Budapest*

Seminars: Georgia State University

2018 Conferences: Econometric Society Winter Meeting, Columbia Financial Networks Conference, Rodney White Center Conference, Mid-Atlantic Research Conference, Review of Economic Dynamics Conference, CityU of Hong Kong Finance Conference, Econometric Society Summer Meeting, AMES*, CBC Hong Kong*, EFA*, EUROfidai*, NFA*

Seminars: George Mason Business School, Johns Hopkins University Carey Business School, University of Chicago (Guest Lecture), New York Fed, Princeton Economics

2017 Conferences: SITE, Cowles Annual Conference on General Equilibrium, WFA, SFS Cavalcade North America, NYU Search Theory Workshop, West Coast Search and Matching Workshop, Philadelphia Search and Matching Workshop, Annual NSF Conference on Network Science in Economics, Young Scholars Finance Consortium

Seminars: Wharton, Chicago Booth, MIT Sloan, Chicago Economics, Northwestern Kellogg, London School of Economics, CMU Tepper, UT Austin McCombs, UNC Kenan-Flagler, WUSTL Olin, the University of British Columbia Sauder School of Business, USC Marshall, Indiana Kelley

2016 Conferences: NYU Stern Microstructure Conference, Paris Dauphine Market Microstructure, Jerusalem School in Economic Theory (poster session), European Finance Association Doctoral Tutorial, European Economic Association Annual Congress, European Society European Meeting, Coalition Theory Network Workshop (Moscow)

Seminars: Stanford Graduate School of Business, Indiana University Department of Economics

2015 World Congress of the Econometric Society, Econometric Society Winter Meeting

2014 Issac Newton Institute workshop -- Systemic Risk: Models and Mechanisms (poster session)

(* paper presented by a coauthor)

AWARDS

2018 Marshall Blume Prize in Financial Research, Rodney White Center
2017 Best Job Market Paper in Finance Theory, Finance Theory Group (*ex aequo*)
Best PhD student paper, Young Scholars Finance Consortium
Cubist Systematic Strategies Ph.D. Candidate Award, Western Finance Association
2015 Teaching Assistant Award, Department of Statistics at Stanford University
2010 Silver Medal, International Mathematics Competition for University Students
2009 Silver Medal, International Mathematics Competition for University Students
2007 Finalist for the national French team, International Physics Olympiads

REFEREE WORK

American Economic Review, Journal of Finance, Journal of Financial Economics, Review of Financial Studies, Journal of Economic Theory, Journal of Monetary Economics, Management Science

TEACHING

FNCE 100: Corporate Finance (Wharton)
ENGR 60: Engineering Economics (Stanford University)
Session leader for STATS 60: Introduction to Statistical Methods (Stanford University)
Oral examiner in mathematics in the preparatory program at Lycée Michelet (Paris, France)

OTHER SKILLS *Software:* R, Matlab, Java, C#, Fortran
Languages: Chinese Mandarin (native), English (fluent), French (fluent)

May, 2021