Dear Review Panel,

I am a 4th year PhD student from the Department of Economics at NYU. My contact information is listed below:

Name: Jin Liu
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Professor Martin Rotemberg from the Department of Economics at NYU will write the recommendation letter for my application. He can be contacted at mrotemberg@nyu.edu.

I attach below my curriculum vitae, course list, and application essay. Thank you so much for your consideration. I look forward to hearing from you.

Sincerely,
Jin Liu

Jin Liu

Email: jl7767@nyu.edu
Homepage: https://sites.google.com/view/jinliusite
Address: 19 West 4 Street, 6th floor, New York, NY 10003

Updated in December 2021

Education

New York University (NYU) 2018-
Ph.D., Economics, Expected completion May 2023

Duke University 2016-2018
M.A., Economics, Graduated with GPA 4.0

Fudan University 2012-2016
B.A., Mathematical Economics, Ranked 1st in Class, Graduated with honor

Working Paper

"Search and Information Frictions on Global E-Commerce Platforms: Evidence from Ali-Express" with Jie Bai, Maggie Chen, Xiaosheng Mu, and Daniel Yi Xu.

Publication

"Do Industrial Policies Lead to Excess Capacity? Empirical Evidence from China" with Zonglai Kou and Xueyue Liu, Fudan Journal (Social Sciences Edition), 59(5), 2017: 148-161.

"Policy Suggestions to Dissolve Excess Capacity" with Zonglai Kou and Xueyue Liu, Review of Economic Research, 66 (2017): 20-21.

Work in Progress

"Strategic Competition and Innovation For Multiproduct Firms" with François Miguet.

"Artificial Intelligence in the US Legal Industry"

"Technology Diffusion and the Cellphone Industry" with Jie Bai, Daniel Yi Xu, Yingyan Zhao

Teaching Experience

Industrial Organization I (NYU, Graduate) Fall
Teaching Assistant for Professor Boyan Jovanovic 2021

Econometrics I (NYU, Graduate) Fall
Teaching Assistant for Professor Quang Vuong and Professor Konrad Menzel 2019, 2020

International Trade (Fudan, Undergraduate) Fall
Teaching Assistant for Professor Changyuan Luo 2015

Relevant Positions

Graduate Assistant for Professor Boyan Jovanovic (NYU) 2019-
Research Assistant for Professor Simone Lenzu (NYU) 2019
Research Assistant for Professor Daniel Yi Xu (Duke) 2017-2018
Research Assistant for Professor Michelle Connolly (Spectrum Lab at Duke) 2016
Research Assistant for Professor Jing Yao (Fudan) 2016

Fellowships, Honors, Awards, and Grants

Pass with Distinction in the Macroeconomics Core Examination, NYU 2019
MacCracken Fellowship, NYU 2018-2022
M.A. Merit Scholar, Duke 2017
Economics Master's Scholar Award, Duke 2016-2018
Outstanding Undergraduate Academic Paper, Fudan 2016
Chinese National Scholarship, 2013, 2015
Scholarship for Outstanding Students, Fudan 2013-2015
oyce M. Kuok Foundation Bursaries, Fudan 2014
Sichuan Provincial Merit Student, China 2012
Center for Global Economy and Business Fund, NYU Stern 2020

Professional Activities

Referee: Young Economists Symposium
Workshop: (2021) AEA-CSWEP Health Economics PhD Student Workshop, NBER Doctoral Student Workshop on Economics of Artificial Intelligence, NBER Economics of Artificial Intelligence Conference

Additional Skills

Software: Stata, Python, MATLAB, Julia, C, LaTeX, Linux, High Performance Computing
Languages: Chinese (native), English (fluent)

PhD Course	Instructor	Institution	Year
Industrial Organization and Public Policy	Seth Richards-Shubik	Princeton	Spring 2021
Applied Microeconomics	Quang Vuong	NYU	Fall 2020
Programming for Data Science	Milan Bradonjic	NYU	Fall 2020
Industrial Organization II	Daniel Waldinger	NYU	Spring 2020
Stochastic Calculus	David Linnan Li	NYU	Spring 2020
Macroeconomics of Market Power	Thomas Philippon	NYU	Spring 2020
Advanced Macroeconomics II	Jess Benhabib	NYU	Spring 2020
Industrial Organization I	Boyan Jovanovic	NYU	Fall 2019
Advanced Macroeconomics I	Virgiliu Midrigan	NYU	Fall 2019
Industrial Organization	Chris Conlon	NYU	Fall 2019
Math for Economists II	Efe Ok	NYU	Spring 2019
Microeconomics II	Ennio Stacchetti, Alessandro Lizzeri	NYU	Spring 2019
Macroeconomics II	Mark Gertler, Corina Boar	NYU	Spring 2019
Econometrics II	Timothy Cogley, Tim Christensen	NYU	Spring 2019
Math for Economists I	Visiting Professor	NYU	Fall 2018
Microeconomics I	Ariel Rubinstein, Alberto Bisin	NYU	Fall 2018
Macroeconomics I	John Stachurski, Lars Ljungqvist	NYU	Fall 2018
Econometrics I	Quang Vuong, Konrad Menzel	NYU	Fall 2018
Discrimination and Inequality	Patrick Bayer	Duke	Spring 2018
Models of Matching and Sorting	Patrick Bayer	Duke	Spring 2018
R&D, Productivity, Technological Change	Daniel Yi Xu	Duke	Fall 2017
Microeconomic Analysis II	Curtis Taylor, Todd Sarver	Duke	Spring 2017
Microeconomic Analysis I	Philipp Sadowski, Joseph Hotz	Duke	Fall 2016

Application Essay

My major field of study is Industrial Organization. I am interested in studying micro firm decisions and their macro impact. I believe that firms are fundamental building blocks of our economy, and that their decisions in production, innovation, and technology adoption play important roles in shaping the future of our society. I am also interested in firm dynamics, where I can apply techniques from the macroeconomics literature to study firm entry and growth. In the following paragraphs, I will discuss my current and future research projects, as well as how they are related to the theme of the boot camp.

I have worked on a co-authored project whose title is "Search and Information Frictions on Global E-Commerce Platforms: Evidence from Ali-Express". In this project, we purchase children's t-shirts from Ali-Express, a large Chinese exporting platform, and self-collect quality measures that we use to quantify search and information frictions. We run a randomized experiment to show that initial random orders a seller receives has a significant impact on its platform visibility and ability to attract future transactions. However, we show theoretically that this demand reinforcement mechanism is undermined by the large number of sellers on Ali-Express. In one counterfactual, we show that by reducing the number of inactive sellers, the platform and policy makers can improve welfare by alleviating the demand side frictions.

In my third-year paper, which is a collaborative work with another graduate student, we study strategic competition and product innovation of multiproduct firms. We analyze Nielsen Retail Scanner data and supplemental text data on product features to document a few stylized facts about the relationship between competition and innovation in product markets. We find that 1) products have a short shelf life and firms actively adjust their product portfolios, 2) product markets are concentrated and can be characterized by oligopolistic competition, and 3) product market competition and product innovation, as measured by the number and novelty of new product introductions, have an inverted-U shaped relationship. Motivated by these empirical findings, we develop a dynamic oligopoly model of endogenous innovation. In this model, multiproduct firms can innovate both to improve the quality of their existing products and to expand to new varieties. Each variety is produced by a few large firms and a fringe of

atomistic firms. We use this model to examine the implication of rising concentration on aggregate innovation and growth.

Currently, I am working on a project about the adoption of Artificial Intelligence technologies in the legal industry. The context is that many law firms have gradually integrated legal AI technology to help with legal research, automated document drafting, and litigation outcome predictions, among other things. These tools are expected to boost the productivity of law firms, but if they are primarily used by large firms, they may have an impact on the industry structure. I'm looking into how data might play a role in the adoption of legal AI technology. However, I haven't settled on a precise idea or question at this time.

For my future research, I would like to continue the study on firm behaviors. I've recently become intrigued by a research topic about the innovation and patenting behaviors of startup firms. On the one hand, patenting increases startups' chances of acquiring venture capital and being purchased; on the other hand, patenting involves disclosure, which allows competitors to steal their ideas. I'm curious about how these factors influence startup patenting incentives, as well as how the American Inventor's Protection Act (AIPA) of 1999 affects patenting by requiring early disclosure.

I've been interested in topics related to firm innovation for a long time but have yet to find a course that focuses on it. This boot camp, I believe, will provide me with an excellent opportunity to fill in the gaps in my knowledge. I'm hoping to learn about new research in this field that will inspire my own work, as well as strike up conversations with other participants and lecturers that could lead to future collaborations.

Jin Liu

December 12, 2021