Applicant Summary

NBER Entrepreneurship Research Boot Camp 2025

Name: Yi-Fan Lin

Contact Information: [Mobile] +1(814)769-1693 [Email] yzl6358@psu.edu

Area of Interest: International Trade, Development, Firm Dynamics

School: Department of Economics, Pennsylvania State University

Year of Entry: 2023

Expected Year of Completion: 2029

Reference: Prof. James Tybout [Email] jxt32@psu.edu

YI-FAN LIN

Date of Birth: 03/02/1998

Latest update: 2025/02/15

CONTACT INFORMATION

Email yzl6358@psu.edu (Penn State)

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EDUCATION

Pennsylvania State University, University Park, PA *August 2023 - Present*
Ph.D. in Economics

National Taiwan University, Taipei, Taiwan *September 2020 - February 2023*
M.A. in Economics

University of California, Berkeley, CA *September 2021 - May 2022*
Visiting student, major in Economics

National Taiwan University, Taipei, Taiwan *September 2016 - June 2020*
B.A. in Economics with minor in Sociology

RESEARCH INTERESTS

International Trade, Development, Firm Dynamics

AWARDS

Dean's List Award *Fall 2017, Spring 2019, Fall 2019, Spring 2020*

- In recognition of outstanding academic achievement at the Department of Economics, College of Social Sciences, National Taiwan University.

Honorary Member of the *Phi Tau Phi Scholastic Honor Society of the Republic of China*
Nominated and accepted June 2020

- Nomination criteria: Every college at domestic universities may recommend up to 1% of undergraduate graduands that are excellent in academic performance as well as moral conduct to receive the honorary membership of the Society.

PUBLICATIONS

Anti-ELAB Movement, National Security Law, and Heterogeneous Institutional Trust in Hong Kong
Published **link**

- *Japanese Journal of Political Science*, 22(4), 287-311.
- With Hans H. Tung (NTU) and Ming-jen Lin (NTU).

PROGRAMMING SKILLS

Programming Languages	Python (advanced), C/C++ (advanced), MATLAB (proficient)
Statistical Analysis	Stata (advanced), R (proficient)
Software & Tools	LaTeX, Excel

Programming samples

- Numerical estimation via Matlab: link
- Map plotting via R: link
- Estimation of trade model: link

WRITING SAMPLES

Defensive Expenditures against Air Pollution in Taiwan *February 2023*
Master's thesis **link**

- Advisors: Dr. Jin-Tan Liu & Dr. Chun-Fang Chiang
- Abstract: This study characterizes the defensive expenditures targeting air pollution in Taiwan by exploiting two data sets: electronic invoice data and experimental data. In particular, this study first investigates how individuals respond to air pollution by purchasing face masks, and applies the random utility model to estimate the marginal willingness to pay (MWTP) for clean air on the consumption records. Moreover, this study analyzes the results of a field experiment and estimates the MWTP using the subjects' answers. Empirically, the evidence shows that (1) the Taiwanese responded to air pollution daily in a timely manner; (2) city residents, wealthier residents, and more educated individuals had higher MWTP relative to other groups; (3) the estimated daily MWTP for removing a unit of $PM_{2.5}$, depending on the approach, is 0.266 or 0.353 for the overall Taiwanese population. If the goal was to remove half of the air pollution from the mean density in the data, then the larger estimation implies that the annual willingness to pay was 1,336.63 NTD, which was much less than the mean annual income of 801,923 NTD.

Replication and Extensions *Spring 2022*
Final Project [**report**]/[**code**]

- Of *Competition and Ideological Diversity: Historical Evidence from US News- papers* (Gentzkow et al., 2014)
- Final project for "Political Economics" (ECON 215B in UC Berkeley), instructed by Dr. Francesco Trebbi

"Topics in Monetary Economics": Final Project *Spring 2021*
Term paper **link**

- ECON 7206 in NTU, instructed by Dr. Yiting Li
- About heterogenous liquidity constraint under economic shock

Effects of global economy on environmental regulations: Literature review *Spring 2020*
Term paper **link**

- Term paper for "Sociology and Climate Change" (SOC 7134 in NTU), instructed by Dr. John Chung-En Liu.
- Discussed "Delaware effect", "California effect" and "Pollution haven hypothesis".

RESEARCH EXPERIENCE

Research Assistant *June, 2024 - Present*
For Dr. Maria-Jose Carreras-Valle in Penn State

- Professor's personal page: **link**.
- Process the "Bill of Lading Data," which is shipment-level record of importing goods.
- Collect annual tariff data.

Research Assistant *February 2020 - August 2021*
For Dr. Jin-Tan Liu in NTU

- Professor's personal page: **link**.
- Collected data of industrial pollution.
- Analyzed administrative data of international trade and corporate financial statement, in Fiscal Information Agency, Ministry of Finance.

Research Assistant *February 2020 - January 2021*
For Dr. Joseph Tao-yi Wang in NTU

- Professor's personal page: **link**.
- Ran experiment and data collection.
- Operated eye-tracker for decision behavior analysis.

Research Assistant *December 2019 - August 2020*
For Dr. Joise I Chen in NTU

- Professor's personal page: **link**.
- Ran experiment and data collection.
- Worked in project of credit card mechanism.
- Mentor of data analysis for other assistants.

TEACHING EXPERIENCE

Teaching Assistant *September 2022 - Present*
[ECON 1022] Principle of Microeconomics

- Instructor: Jin-Tan Liu

Teaching Assistant *February 2021 - June 2021*
[ECON 1021] Principle of Macroeconomics (with Recitation)

- Instructor: Yi-Chan Tsai
- Evalution: 4.26/4.3

Statement of Application

NBER Entrepreneurship Research Boot Camp 2025

Yi-Fan Lin *

I am a 2nd-year Economics Ph.D. student focusing on spatial heterogeneity in economic activities, with particular interests in firm organization across space and the market competition within spatial networks. I see the NBER Entrepreneurship Boot Camp as an ideal opportunity for me to explore frontier research on firm dynamics and business formation, which would advance my research agenda.

My current project aims to investigate how domestic firms adjust their output portofolios in response to improvements in transportation systems. By lowering inter-regional trade costs, transportation improvements enhance firms' input-sourcing ability while intensifying competition in output markets. While the latter force might prompt firms to drop their less-productive products, the former one could encourage firms to add or switch products. In addition to within-firm adjustments, those improvements would also induce firm entry and exit. Building on my proposal for the 2nd-year Development course instructed by Dr. James Tybout, my research will empirically examine this dynamic using Indian plant-level data. I believe the boot camp will help me integrate recent models of product-switching dynamics and business formation into my analysis.

Besides domestic spatial networks, I am interested in firms involved in the global economy. Through coursework in both International Trade and Macroeconomics (with the topic on *Global Value Chain*) and my work with U.S. bill of lading data for Dr. Maria-Jose Carreras-Valle, I have become intrigued by how firms importing intermediate inputs from abroad handle inventories when facing trade uncertainty. I am keen to learn more about risk management strategies, such as inventory control and foreign currency holdings, and to understand how globalization influences overall business dynamics.

While my primary research interest lies at the intersection of Trade and Development, insights from the literature on firm dynamics are central to my approach. I have been particularly inspired by Dr. Nicholas Bloom's work on the how managerial knowledge affect firm performance in the developing countries and by Dr. John Haltiwanger's studies comparing business formation and lifecycle across regions. I look forward to engaging with these topics further at the boot camp. Finally, by connecting the knowledge in entrepreneurship and business management to my research interests, I wish to contribute to a deeper understanding of entrepreneurship, business management, and spatial economics.

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PENNSTATE

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February 10, 2025

To whom it may concern:

This letter is to enthusiastically recommend Yi-Fan Lin for the NBER's upcoming Entrepreneurship Research Boot Camp (EBRC). I know Yi-Fan because he took my graduate course on economic development last fall, and I have chatted with him periodically about his research. On the basis of these interactions, I can confidently state that he is a promising applied economist with strong analytical abilities, excellent computational skills, and a particular interest in the determinants of firm-level performance in developing countries.

Yi-Fan's current project explores the effects of India's Golden Quadrilateral (GQ) highway project on firms' productivity and product scope. More specifically, he is working on unbundling the effects of greater access to inputs, larger downstream markets, and relatedly, greater downstream competition. Combining geospatial data with India's Annual Survey of Industries and Prowess data, he has constructed firm-specific indices of upstream and downstream interconnectedness before versus after completion of the GQ. Now he is quantifying the distinct channels through which connectedness affects firm performance , drawing on Chaterjee (2023) for connectedness measures, Orr and Tabari (2024) for productivity measurement, Borusyak and Hull (2023) for spatial instruments, and Boehm and Oberfield (2020) for his characterization of production technologies.

In addition to Yi-Fan's analytical abilities and empirical skills, I have been impressed with his strong work ethic. Together with his sincere, good-natured deportment and his eagerness to interact, these traits portend a promising future in academia. And at this stage in his studies, exposure to the frontier researchers at the EBRC could prove transformative. For all these reasons, I urge you to extend him an invitation. If you would like to discuss his candidacy further, please feel free to get in touch with me by e-mail (jtybout@psu.edu) or phone (814-865-4259).

Sincerely,

James R. Tybout
Professor of Economics