Summary of Applicant

Name	Sujin Lee
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Address	410 Arps Hall, 1945 N High St, Columbus, OH 43210
School	Ohio State University
Area of interest	Labor Economics, Entrepreneurship
Year of entry into the PhD program	2021
Expected year of completion	2027
Faculty member supplying a letter of recommendation	Audrey Light

Sujin Lee

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Research Interests

Labor Economics, Entrepreneurship

Education

The Ohio State University, Ph.D. Economics	2021-to date
Seoul National University, M.A., Economics	2019-2021
Seoul National University, B.A., Economics	2015-2019

Work in Progress

- "Jack-of-All-Trades or Jack-of-Business-Trades? The Importance of Business Skills in Different Types of Self-Employment"

  Abstract: Lazear's (2004, 2005) jack-of-all-trades (JOAT) hypothesis suggests that skill diversity is a key driver of entrepreneurial entry and success. This idea has led to extensive empirical investigation that often uses occupation or employer counts to measure skill diversity and self-employment to proxy entrepreneurship. In this paper, I revisit the JOAT hypothesis by arguing that workers need not be jacks of "all" trades to succeed in business; they simply need a combination of specialized skills and business skills. In addition, I argue that the importance of a worker's skill mix is likely to differ for small, simple (often unincorporated and low-skill) businesses versus larger, more complex businesses. To test this, I construct a novel measure of business skill by linking near-complete work histories from NLSY79 data to O*NET data, creating a time-in-occupation-weighted measure of the occupation-specific importance of managerial and people skills. I then examine how these skills influence both the probability of transitioning into different types of self-employment and subsequent success, measured by earnings and business longevity. My findings indicate that business skills are particularly important for entry into and success in complex self-employment, while conventional measures of skill diversity (occupation and employer counts) predict entry into simple self-employment. These results imply that targeted skill development in business-specific areas is more beneficial for success in complex businesses than broadly increasing skill diversity across unrelated domains.

- "Can Self-Employment Provide a Lifeline for Struggling Workers?"

  Abstract: Public policies often promote self-employment among individuals receiving government support, such as unemployment benefits, with the hope that it serves as a viable pathway to improved career outcomes. In this paper, I examine the effectiveness of self-employment in enhancing career outcomes for individuals facing labor market hardship, such as low wages, limited wage growth, employment instability, and reliance on public assistance. Using data from the NLSY79, I investigate whether transitioning into self-employment after a period of hardship leads to higher wages, wage growth, better employment stability, wealth accumulation, and reduced dependence on public assistance programs – including unemployment insurance, food stamps, and other welfare benefits – both during and after self-employment. To address selection bias, I use matching methods to compare individuals who enter self-employment with those who do not. This analysis offers valuable insights into the potential role of self-employment as a policy tool for individuals facing labor market challenges.

- "Long-Term Effects of Financial Education in High School on Business Ownership"

  Abstract: Financial illiteracy is widespread, particularly among women and those with less education (Lusardi and Mitchell, 2023). These groups are less likely to own businesses, and when they do, their

businesses tend to be smaller, simpler, and less reliant on external financing – potentially due to constraints like limited access to credit or financial decision-making challenges stemming from a lack of financial knowledge. If financial illiteracy is a constraint, mandatory financial education during high school could increase business activity and improve business outcomes for these groups. Previous research suggests that high school financial education improves short-term outcomes, such as financial knowledge and behaviors related to saving, debt, and debt repayment in early adulthood. In this paper, I contribute to the literature by examining the differential long-term effects on business outcomes for women and those with less education. Using SIPP data, I assess whether mandatory financial education increases the likelihood of being self-employed, enhances the value of businesses owned or business income, and increases the likelihood of business entry in finance-intensive industries, with particular attention to differences across gender and educational attainment.

- "AI Adoption and Gender Disparities in the Workforce" (with Tian Lou and Bruce Weinberg)

  Abstract: How does a business's exposure to AI influence gender disparities in its workforce? Building on the idea that AI technology is transmitted through human capital, we track AI-trained researchers to examine gender composition and wage gaps at firms that hire these researchers compared to those hiring researchers in non-AI fields within the same narrowly defined industries. Using UMETRICS data, which track payment records for all university research employees on grants, linked with Elsevier data on AI-publishing authors, we measure a grant's "AI intensity" based on the AI publication activity of its principal investigators and an employee's "AI exposure" based on their duration and intensity of work on these AI-related grants. We then follow these researchers into the workforce using Ohio UI Wage Records and the Quarterly Census of Employment and Wages to identify businesses that are more likely to have adopted advanced AI by hiring AI-trained researchers. We find that firms hiring AI-trained researchers have a lower share of female employees and wider gender pay gaps, even among non-AI-trained workers, compared to other firms in the same industries that do not hire AI-trained researchers. We also find a clear gradient based on how many AI-trained researchers firms hired as well as how much "AI exposure" AI-trained researchers had. These suggest that AI adoption can influence gender disparities across the broader workforce, beyond AI researchers and those directly involved in AI development or use.

- "The Impact of Restricting Large Retailer Operation Days on Independent Retailers and Consumers: Evidence from South Korea" (with Marco Gonzalez-Navarro and Jaecheol Lee)

  Abstract: Regulations requiring large retail chains to close once every other week in South Korea aimed to support small and independent businesses in the retail sector. Using detailed credit card expenditure data, we find that only 20% of lost sales shift to independent retailers, while 25% go to unrestricted competitors (e.g., convenience stores and department stores). Additionally, 41% of lost sales are merely temporally displaced within large retail chains. We find no evidence that the policy improved independent retailer entry or survival. Instead, it imposed significant costs on consumers, as they had to choose their second-best option, often leading to longer travel distances, higher prices, or reduced product variety.

Pre-Doctoral Publications

- "The Effect of COVID-19 Stimulus Payments on Household Spending," (with Chulhee Lee), *Korean Journal of Social Policy*, 51, 2022, 60-88, (in Korean, non-peer reviewed).
- "The Effect of Child Support Payment Coupons in Response to COVID-19 on Household Spending," (with Chulhee Lee), *The Korean Journal of Economic Studies*, 69(3), 2021, 5-54, (in Korean).

Scholarships

University Fellowship, The Ohio State University, 2021 – 2022

Graduate Student Instructor Fellowship, Seoul National University, 2019 – 2021

Relevant Positions

Research Assistant to Professor Bruce Weinberg, The Ohio State University, SP 2024 – present

Research Assistant to Professor Chulhee Lee, Seoul National University, SP 2019 – SU 2021

Research Assistant to Professor Jisoo Hwang, Seoul National University, SP 2020 – SU 2021

Research Assistant to Professor Sok Chul Hong, Seoul National University, FA 2020 – SP 2021

Teaching Experience

Independent Instructor at The Ohio State University

Principle of Microeconomics (SU 2023)

Teaching Assistant at Seoul National University

Population and Economy (FA 2019, FA 2020), Professor Chulhee Lee

Economic History (SP 2020), Professor Chulhee Lee

Conference Presentations

2023 Decision Sciences Collaborative Spring Forum Poster Session (OSU), North American Meetings of the Urban Economics Association (U Toronto), BGSU/OSU Graduate Student Conference on Population (OSU)

2020 Society for the Advancement of Socio-Economics Conference (virtual)

Research Statement and Reason for Applying for the Boot Camp

Sujin Lee

My research interests are labor economics and entrepreneurship. In my dissertation research, I examine how prior work experience affects entry into self-employment and the "success" of such enterprises, as well as the role of self-employment in helping low-skill workers improve their labor market prospects.

In *Jack-of-All-Trades or Jack-of-Business-Trades? The Importance of Business Skills in Different Types of Self-Employment*, I revisit Lazear's (2004, 2005) JOAT hypothesis, which posits that individuals with balanced skills are more likely to become successful entrepreneurs. I argue that a broad skill set across all domains is unnecessary; instead, business-specific skills (including managerial and social skills) matter most, along with specialized skills related to the business (defined primarily as self-employment). I also argue that the role of skill is likely to differ for individuals who enter "simple" self-employment (one-person, unincorporated, and/or low-skill) and those who own more complex businesses. I develop a novel measure of business skills using near-complete work histories from NLSY79 data linked to O*NET data; specifically, I construct a time-in-occupation-weighted measure of the occupation-specific importance of business, managerial, and people skills across occupations encountered to date. These skill measures are the key regressors in models of the probability of entering self-employment, and models of income and duration among the self-employed (or business owners). I find that business skills are predicted to substantially improve all three outcomes when the focus is on "complex" self-employment. For "simple" self-employment, business skills are not predicted to significantly affect entry or income, but they appear to improve survival. I will continue to explore the reasons for these different patterns but, overall, I believe this research contributes to our understanding of how prior work experience shapes self-employment outcomes, while highlighting the importance of targeted skill development in business-related areas.

In *Can Self-Employment Provide a Lifeline for Struggling Workers?* I ask whether self-employment can improve career outcomes for low-skill workers – especially those facing labor market hardships such as low wages, employment instability, and reliance on public assistance. Although I (currently) focus exclusively on low-skill workers, I distinguish between those experiencing labor market hardships and those who do not. Using NLSY79 data and matching techniques (to address selection bias), I compare individuals who enter self-employment with observationally similar individuals who do not, using many dimensions of prior experience as well as demographics for matching. I investigate a number of outcomes, including subsequent wage growth, employment stability, wealth accumulation, and dependence on public assistance. This research is relevant to policy discussions on self-employment as a policy tool for enhancing career outcomes.

I intend to pursue research topics related to self-employment and entrepreneurship in the long run and, therefore, am eager to attend the NBER Entrepreneurship Research Boot Camp. My research to date has focused on the entry into and success of self-employment, using household surveys to examine the role of work experience and human capital. Moving forward, I aim to expand my focus to high-growth, innovation-driven startups. I am particularly interested in how team formation complements the skills required for success in these businesses, as well as the long-term labor market consequences of business exit. Attending the Boot Camp will expose me to aspects of the literature I have yet to explore in detail and allow me to learn about additional data sources, measurement approaches, and identification strategies essential for studying these entrepreneurs. Beyond these goals, I look forward to connecting with others who share similar interests, which will provide opportunities for collaboration as I continue developing my work on entrepreneurship.

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February 13, 2025

To Whom It May Concern:

I am delighted to write this letter of support for **Sujin Lee,** who is applying for the 2025 NBER Entrepreneurship Research Boot Camp. Sujin is currently a fourth-year Ph.D. student in the Department of Economics at Ohio State University; her official fields are labor economics and econometrics, but entrepreneurship is her research focus. I serve as her dissertation advisor.

Sujin is working on an exciting dissertation that explores how business ownership fits into the overall career, using data from the 1979 National Longitudinal Survey of Youth combined with O*NET. The NLSY79 has tracked respondents' work experience and jobs (including those classified as self-employment) for 45 years, and has tracked business ownership since 2010 after fielding a one-time module to retrospectively catch up on all businesses owned from age 18 through 2010. As a result, it now provides a detailed, nearly life-long history of respondents' wage-employment, self-employment and business ownership experiences, along with detailed information on family formation, income, wealth, and much more. Sujin is among a relatively small number of researchers who have exploited this valuable data source to study issues related to entrepreneurship.

In one paper ("Jack-of-All-Trades or Jack-of-Business-Trades? The Importance of Business Skills in Different Types of Self-Employment"), Sujin extends Lazear's JOAT hypothesis in two important ways. First, she argues that the skill diversity needed to enter (and succeed in) business ownership is not as broad as Lazear and follow-up empirical researchers have suggested: rather than mastering *all* trades or possessing *any* balanced skill mix, workers simply need expertise in whatever the proposed business will focus on, plus a solid set of business, managerial, and personal skills. Second, she observes that the overwhelming majority of self-employment and/or business ownership requires minimal capital and is solo, low-skill, and unincorporated. She argues that the skills needed for these "simple" businesses are likely to be different than what is needed for larger, more complex businesses. She pursues these ideas by combining NLSY79 and O*NET data to construct detailed measures of the occupation-specific skills needed (and, we hope, acquired) from labor market entry to any time ***t***, and using these measures in models of entry into business ownership and "success" of each business, as measured by income and longevity. She finds that her measure of skill diversity (specialization combined with business/managerial/people skills) is an important determinant of entry into complex businesses, but *not* simple businesses; however, it is an important determinant of business longevity for *both* types of businesses while, oddly, a simple count of "number of jobs (or occupations) held" is an important determinant of entry into simple businesses but *not* complex businesses. She is currently drilling deeper into the data to learn more about these somewhat puzzling findings with respect to simple businesses.

Given the findings in her first paper—combined with the fact that "simple" businesses vastly outnumber large, complex businesses—she is working on a second paper ("Can Self-Employment Provide a Lifeline for Struggling Workers?") that asks when and how low-skill workers manage to

parlay self-employment into improved labor market outcomes. The key to her analysis is to devise reasonable ways to distinguish between labor market "success" versus "failure," both before and after self-employment. For the "before," she distinguishes between low-skill workers who encounter employment instability, job loss, a lack of wage growth and/or reliance on public assistance, and their counterparts who avoid these experiences. Within each type, she uses matching methods to compare similar workers who do or do not enter into self-employment. This enables her to determine whether subsequent "success" (improved stability, hours worked, earnings, *etc.*) among similar workers is enhanced by the decision to enter self-employment. This project is currently in a preliminary stage of experimenting with alternative ways to "type" both workers and their labor market outcomes, but I believe it will lead to important findings about the value of self-employment for low-skill individuals who are well outside the rarified world of tech entrepreneurs.

Sujin's current work on how business ownership fits into the broader career can be pursued indefinitely, given the richness of the data and the number of topics that remain under-investigated—but her plans extend well beyond this topic. In a third project, she is using SIPP data to assess the causal effect of mandatory personal finance courses in high school on the likelihood and success of subsequent business ownership. She is intent on exploiting other data sources as well, and on extending her research to examine both the process by which business ownership is financed and the role of spousal income and other forms of income support.

I should note that Sujin is among the best students in OSU's Economics Ph.D. program, so we have committed to funding her for six years. This means she will enter the job market in fall 2026, at which point she is likely to have at least four solid papers on business ownership.

I regard Sujin as an unusually strong candidate for the NBER Boot Camp. She is "all in" when it comes to studying entrepreneurship and self employment; she is a smart, highly motivated student; she is exceedingly well-versed in the business ownership literature, and is very good at identifying worthwhile topics to explore. At the same time, there are large swaths of the literature that she has not yet delved into, perspectives on the study of entrepreneurship (especially at the IO and finance end) that she has not fully considered, and additional data sources that she is anxious to learn more about. She has a lot still to learn, but her current expertise (and overall abilities) will enable her to gain a great deal from every session and every informal discussion available at the Boot Camp. She is friendly and knowledgeable and a superb communicator, so others will enjoy interacting with her as well.

Please contact me at light.20@osu.edu or 614-218-2987 if I can provide additional information.

Sincerely,



Audrey Light
Professor of Economics