DEOKJAE JEONG

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EDUCATION

Ph.D. in Economics, **University of California, Davis**   2024
M.S. in Economics, **University of Wisconsin, Madison**   2018
M.A. in Economics, **Sung Kyun Kwan University (Korea)**   2012 *(coursework complete)*
B.A. in Law, **Sung Kyun Kwan University (Korea)**   2010

RESEARCH INTERESTS

Applied Microeconomics, Labor Economics

RESEARCH EXPERIENCE

Jeonbuk National University, Economics
  Postdoc   2024 ~ Present
Korea Institute of Public Finance
  Center for Performance Evaluation and Management   2014 ~ 2015
  Research Associate
Korea Development Institute   2012 ~ 2014
  Department of Human Resource Development Policy
  Research Associate

WORKING PAPERS

[How the Reduction of Temporary Foreign Workers Led to a Rise in Vacancy Rates in South Korea](#)   (Submitted to the Journal of Human Capital, Revise and Resubmit received)

Abstract: This paper investigates the impact of a reduction in low-skilled Temporary Foreign Workers (TFWs) on job vacancies in South Korea's manufacturing sectors. The study harnesses a quasi-experimental event —the commencement of a COVID-19 quarantine policy in January 2020— as the foundation to pinpoint the causal link between the dwindling numbers of TFWs and the subsequent increase in job vacancies. This stringent quarantine measure acted as the 'shift'

component in my shift-share instrument, while the pre-pandemic distribution of TFWs across various manufacturing sectors functioned as the 'share' component. Utilizing Difference-in-Difference regressions with continuous intensities, the research underscores that sectors with a heavy dependence on TFWs witnessed a significant spike in vacancies a year following the COVID-19 outbreak, and this surge lasted for two years. Consequently, firms grappled with the challenge of securing full-time staff, given that most of these foreign workers (E9 visa holders) had been primarily engaged in full-time roles. This highlights that domestic workers are not readily available to fill vacant positions, especially as full-time workers. The paper also incorporates the Local Projection methodologies to substantiate these observations.

Automation, Human Task Innovation, and Labor Share   (with Seungjin Baek and Giovanni Peri)

Abstract: This study examines the global decline in labor share since the 2005, focusing on the impacts of robotic and human innovation within a general equilibrium framework. Using novel shift-share variables   —operational robot data, patent similarity to automation vocabularies, and cognitive task intensity scores—   the research addresses endogeneity issues across countries and sectors. Findings reveal that while robotic innovation negatively impacts labor share, human innovation exerts a predominantly positive influence, largely offsetting automation's effects. Additionally, we find the elasticity of substitution between labor and capital is less than one, aligning with much of the literature. The paper acknowledges two primary limitations. First, the price factors are not exogenous. Second, fixed effects account for a significant proportion of the observed decline in labor share.

Measuring Routine and Cognitive Task Indices: Using Large Language Models to Analyze Occupational Change in the United States   (with Tai Lee, Submitted to Labour Economics)

Abstract: This study proposes an innovative methodology for quantifying Routine Task Intensity (RTI) and Cognitive Task Intensity (CTI) using Large Language Models to analyze O*NET task descriptions. Employing these LLM-derived measures, we reveal a consistent decline in routine occupations across Service and Sales sectors, with Sales receiving limited attention in existing literature. Regression analysis indicates a significant upward trend in cognitive impact on wages for females, particularly in Service, Sales, and to a lesser extent, Management occupations, while routine coefficients remain stable across five decades. These results underscore the growing significance of cognitive skills, especially for women in the workforce. Despite limitations in LLM output reliability and replicability, our methodology offers a complementary perspective to existing approaches, enabling a comprehensive understanding of labor market transformations.

WORK IN PROGRESS

Market Concentration and Labor Share: An EU Critique of the Superstar Firms Theory
(with Corinne Stephenson)

Abstract: This paper contends that the Superstar Firms theory by Autor et al. (2020) inadequately explains the decline in labor share in EU countries. Although market concentration has risen in the U.S., it has notably decreased overall in EU nations. We first demonstrate the weak correlation between market concentration and changes in labor share in the EU using CompNet data. We then delve deeper with firm-level data from Orbis. Finally, we offer compelling reasons that are unique to the EU context. We conclude that while the Superstar Firms theory is a robust explanation for the U.S., it cannot be universally applied.

PRESENTATIONS (*: Scheduled)

SSK Networking 4th Joint Symposium	2024
Western Economic Association International 99th Annual Conference	2024
American Economic Association Annual Meeting	2024
Korea-America Economic Association Job Market Conference	2023
Applied Microeconomics Student Talk, UC Davis	2022, 2023
Annual All-California Labor Economics Conference	2023
Advisees' Meeting Presentations, UC Davis	2021, 2022, 2023

TEACHING EXPERIENCE

UC DAVIS, Teaching Assistant $2018 \sim 2024$
    ECN 1A   Introductory Microeconomics
    ECN 1B   Introductory Macroeconomics
    ECN 100A Intermediate Microeconomics
    ECN 101B Intermediate Macroeconomics
    ECN 110B World Economic History
    ECN 131   Public Finance

FELLOWSHIPS

Research Award, UC Davis, Department of Economics	2023
Non-Resident Tuition Fellowship, UC Davis	$2019 \sim 2022$
SimSan Scholarship, SimSan Foundation	$2010 \sim 2012$
Scholarship for Academic Excellence, Sung Kyun Kwan University	2009

SKILLS

Stata, Python, SAS, R, MATLAB
English (fluent), Korean (native), Japanese (advanced)

REFERENCES

Giovanni Peri	**Oscar Jorda**	**Athanasios Geromichalos**
Professor	Professor	Professor
University of California, Davis	University of California, Davis	University of California, Davis
Department of Economics	Department of Economics	Department of Economics
gperi@ucdavis.edu	ojorda@ucdavis.edu	ageromich@ucdavis.edu