

DEOKJAE JEONG

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EDUCATION

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

RESEARCH INTERESTS

Applied Microeconomics, Labor Economics, Innovation, Immigration

WORKING PAPERS

Automation, Human Task Innovation, and Labor Share: Unveiling the Role of Elasticity of Substitution (Job Market Paper)

Abstract: This paper investigates the elements contributing to the decline in labor share, with a particular focus on the roles of ‘automation’ and ‘innovation in human-exclusive tasks.’ We construct a general equilibrium model that separately incorporates both robot and non-robot capital to derive a regression equation. The regression results reveal four major findings. First, we identify two distinct channels through which robots influence labor share: automation and the reduction in robot prices. We find that both channels negatively impact labor share. Our general equilibrium model predicts that the effect of decreasing robot prices will intensify as robots become more prevalent. Second, we are the first to empirically assess the impact of innovation in human-exclusive tasks on labor share. Our findings suggest that the positive influence of human-exclusive innovation outweighs the adverse effect of automation. Third, we estimate that the elasticity of substitution between labor and non-robot capital is less than one, while the elasticity of substitution between tasks is greater than, but close to, one. Lastly, based on these estimates, we clarify the mechanisms by which the prices of factors —labor, robots, and non-robot capital— influence labor share. Specifically, we observe that both the negative effect of automation and the positive effect of human-exclusive task innovation are amplified through the aggregated task price channel.

How the reduction of Temporary Foreign Workers led to a rise in vacancy rates in South Korea

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 Structural Vector Autoregression and Local Projection methodologies to substantiate these observations.

WORK IN PROGRESS

Market Concentration and Labor Share: An EU Critique of the Superstar Firms Theory

PRESENTATIONS (*: Scheduled)

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 ~ Present
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

Sung Kyun Kwan University, Teaching Assistant

2011

Labor Economics

Microeconomics

RESEARCH EXPERIENCE

Korea Institute of Public Finance

2014 ~ 2015

Center for Performance Evaluation and Management

Research Associate

Korea Development Institute

2012 ~ 2014

Department of Human Resource Development Policy

Research Associate

FELLOWSHIPS

Research Award, UC Davis, Department of Economics

2023

Non-Resident Tuition Fellowship, UC Davis

2019 ~ 2022

SimSan Scholarship, SimSan Foundation

2010 ~ 2012

Scholarship for Academic Excellence, Sung Kyun Kwan University

2009

SKILLS

Stata, SAS, R, MATLAB, Python

English (fluent), Korean (native), Japanese (advanced)

REFERENCES

Giovanni Peri

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