

# DEOKJAE JEONG

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## EDUCATION

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**University of California, Davis**

Ph.D. in Economics

Davis, CA

Sept. 2018 ~ Present

**University of Wisconsin, Madison**

M.S. in Economics

Madison, WI

Sept. 2016 ~ Jun. 2018

**Sung Kyun Kwan University**

M.A. in Economics (coursework complete)

B.A. in Law

Seoul, Korea

Sept. 2010 ~ Feb. 2012

Mar. 2004 ~ Aug. 2010

## RESEARCH INTERESTS

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Applied Microeconomics, Labor Economics, Immigration, Automation

## RESEARCH EXPERIENCE

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**Korea Institute of Public Finance**

Center for Performance Evaluation and Management

Research Associate

Oct. 2014 ~ July 2015

**Korea Development Institute**

Department of Human Resource Development Policy

Research Associate

Feb. 2012 – June 2014

## WORKING PAPERS

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**“Factors Influencing Labor Share: Automation, Task Innovation, and Elasticity of Substitution” (JMP)**

*Abstract:* This paper explores the underlying factors contributing to the recent decline in labor share, focusing specifically on the roles of automation and the development of new tasks that are exclusive to humans. First, our paper strengthens the argument that automation has a negative impact on labor share. Second, we are the first to empirically estimate the influence of new human-exclusive tasks on labor share. Our findings suggest that the positive impact of human-exclusive tasks dominates the negative impact brought about by automation. Third, we find that the elasticity of substitution between labor and capital is less than one, offering a coherent framework for predicting how various factors —capital price,

robot price, and wages— impact labor share. We identify two distinct mechanisms through which robots negatively affect labor share: automation and a reduction in the price of robots. Our general equilibrium model predicts that the latter will gain increasing importance in the future as robots become more prevalent. Lastly, we estimate the elasticity of substitution between tasks to be one, empirically validating an assumption that many existing studies have made.

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

*Abstract:* This paper investigates the impact of a reduction in low-skilled Temporary Foreign Workers (TFWs) on the vacancies in the manufacturing sectors in South Korea. Using a quasi-experimental event—the initiation of a quarantine policy due to COVID-19 in January 2020—the study aims to isolate the causal effect of TFWs on labor shortages. The paper employs vacancies as a proxy measure for labor shortages and focuses on E9 visa holders, who constitute the majority of TFWs in the South Korean manufacturing sector. Through Difference-in-Difference (DD) regressions, the study finds that sectors heavily reliant on TFWs experienced a significant increase in vacancies a year after the COVID-19 outbreak. The results suggest that firms faced challenges in finding full-time workers, leading to a higher ratio of part-time to full-time employees. The paper also utilizes Structural Vector Autoregression (SVAR) and Local Projection (LP) methods to reinforce these findings. Our results contribute to the existing literature by confirming that a reduction in TFWs results in an immediate increase in vacancies, and by challenging the claim that native workers can readily fill the positions left vacant by TFWs, especially in terms of full-time employment.

## **WORK IN PROGRESS**

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### **“Market Concentration and Labor Share: An EU Critique of the Superstar Firms Theory”**

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**

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Presentation to Advisors	Aug. 2023
Annual All-California Labor Economics Conference (Poster)	Sept. 2023
Applied Micro Student Talk	Oct. 2023

## TEACHING EXPERIENCE

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UC DAVIS, Teaching Assistant	Sept. 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	

## FELLOWSHIPS

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Research Award (UC Davis Department of Economics)	2023
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## SKILLS

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

## REFERENCES

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### **Giovanni Peri**

Professor  
 University of California, Davis  
 Department of Economics  
[gperi@ucdavis.edu](mailto:gperi@ucdavis.edu)

### **Athanasios Geromichalos**

Professor  
 University of California, Davis  
 Department of Economics  
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### **Oscar Jorda**

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 Department of Economics  
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