

# Jieun Lee

PhD candidate in Economics  
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## Education

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### University of Illinois Urbana-Champaign (UIUC), USA

Doctor of Philosophy (PhD) in *Economics*, May 2023 (Expected)

- Dissertation: Essays on Endogenous Spatial & Social Interactions
- Committee: Anil K. Bera (Chair), EunYi Chung, Bo Li, Xiaofeng Shao

Master of Science (MS) in *Mathematics*, 2022

Master of Science (MS) in *Statistics-Applied*, 2021

### Ewha Womans University, South Korea

Master of Arts (MA) in *Economics*, 2016

Bachelor of Arts (BA) in *Economics*, 2013

## Research Interest

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- Primary: Econometrics Theory, Spatial Econometrics.
- Secondary: Applied Macroeconomics: Growth, International Macroeconomics.
- Tertiary: Interdisciplinary Studies in Social Sciences: Sociology, Politics.

## Publications

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*\*Published in Social Sciences Citation Index (SSCI) journals*

1. **Lee, Jieun.**, Hlasny, Vladimir. (2023). Workers' Social Capital and Employment Outcomes: The Case of MENA Countries (Accepted). *Research Handbook on Poverty and Inequality, Part II: Measurement and Analysis of Poverty and Inequality, Chapter 16*. Edward Elgar Publishing.
2. **\*Lee, Jieun.**, Hlasny, Vladimir. (2022). Social Capital and Workers' Job Prospects in the MENA Region (Accepted). *Sociologický časopis/Czech Sociological Review*. [Manuscript](#)
3. **\*Hlasny, Vladimir., Lee, Jieun.** (2020). Investment in social capital by the Korean elderly and baby-boomers. *The Journal of the Economics of Ageing*, 17, 100256. [See publication](#)
4. **Lee, Jieun.**, Hlasny, Vladimir. (2019). The Effect of Social Capital on Individuals' Economic Outcomes in the MENA Region. *Topics in Middle Eastern And North African Economies*, 21(1). [See publication](#)

## Working Papers

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1. **Testing Endogeneity of Spatial Weights Matrices in Spatial Dynamic Panel Data Models (Job Market Paper)** [Manuscript](#) [Presentation Slides](#)
2. Evidence and Strategy on Economic Distance in Spatially Augmented Solow-Swan Growth Model (*Under Review*) [Manuscript](#)
3. Moral Hazard on Productivity Among Work-From-Home Workers Amid the COVID-19 Pandemic (*Under Review*) [Manuscript](#)

## Work in Progress

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Estimation for Spatial Autoregressive Model With Endogenous Spatial Weights Matrices Under Heavy Tail Dependence

Robust Score Test for Contemporaneous Spatial Dependence, Dependence Over Time, and Spatial Time Dependence in Spatial Dynamic Panel Data Models

Rao's Score (RS) Tests and Its Bera-Yoon (BY) Adjustments Within the Empirical Likelihood (EL) Framework (with A. Bera)

Strategic Network Formation and Its Spatial Implications (with A. Centeno)

Spatial Regression Discontinuity Design Under Spillover Effects (with HJ. Kim and H. Han)

Political Freedom and Economic Growth (with H. Cho)

Social Capital and Job Prospects of the Korean Pre-retirees (with V. Hlasny)

Spillover Effects in Social Capital on the Korean Workers' Job Prospects (with V. Hlasny)

Financial Inclusion and Consumption Smoothing (with E. Kim)

Dementia and Social Activities of the Korean Elderly Women (with H. Han)

## Conference & Seminar Presentations

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### Testing Endogeneity of Spatial Weights Matrices in Spatial Dynamic Panel Data Models

- *Spatial Econometrics Association (SEA) Online Monthly Seminar*, Jun 13, 2023. (scheduled)
- *KAEA (Korea-America Economic Association) Job Market Conference Joint with KEA (Korean Economic Association)*, Nov 3, 2022. [Presentation Slides](#)
- *Midwest Econometrics Group (MEG) 2022 Conference*, Michigan State University, East Lansing, Michigan, USA, Oct 27-29, 2022. [Presentation Slides](#)

- *Mentoring Workshop for Junior Women in Midwest Econometrics Group (MEG) 2022 Conference*, Mentor: *Xu Lin*, Associate Professor, Department of Economics, Virginia Tech.
- *Job Market Research Workshop*, University of Illinois Urbana-Champaign, Urbana, Illinois, USA, Sep 26, 2022. [Presentation Slides](#)

### **The Effect of Social Capital on Individuals' Economic Outcomes in the MENA Region**

- *39th Annual MEEA Meeting in conjunction with the Allied Social Sciences Association (ASSA)*, Atlanta, Georgia, USA, Jan 3-7, 2019.

### **Investment in Social Capital by Korean Baby-Boomers and the Elderly**

- *Aging & Society: Seventh Interdisciplinary Conference*, University of California at Berkeley, Berkeley, California, USA, Nov 3-4, 2017.
- *Korea and the World Economy(15<sup>th</sup>): New Economic Paradigm and Sustainable Development*, Korea Federation of Banks, Seoul, Korea, Aug 5-6, 2016.
- *The 13<sup>th</sup> East Asian Social Policy Network International Annual Conference*, Ewha Womans University, Seoul, Korea, Jul 1-2, 2016.

## **Professional Service & Affiliations**

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Referee for *Spatial Economic Analysis*.

Member of Spatial Econometrics Association (SEA), Korean Academic Economic Association (KAEA), Korean Women Economists Networking (KWEN).

## **Honors, Scholarships, Grants, and Awards**

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2017 (Fall) & 2018 (Fall) & 2022 (Fall) **Scholarship for Conference**, Department of Economics, University of Illinois Urbana-Champaign, USA.

2016 (Fall) & 2017 (Spring) **Fellowship for PhD Students**, Department of Economics, University of Illinois Urbana-Champaign, USA.

2014 **Graduate Research Scholarship for Humanities and Social Sciences**, Korea Student Aid Foundation, South Korea.

2014 **Award in Paper Competition for the Market Economy**, *How to Lower the Barrier to Entry for Women in Korean Labor Market by Game Theory*, bestowed by KB Financial Group Inc. Chairman and organized by Market Economic Research Institute, South Korea.

2012 **Award in Economic Universiade**, *A Far-Sighted Policies to Develop Human Resources for the Economic Growth in Korea*, bestowed and organized by Edaily, Korea Association of Economic Education, SK communications and sponsored by Ministry of Strategy and Finance, Ministry of

Knowledge Economy, Ministry of Education, Science and Technology, Ministry of Employment and Labor, Ministry of Environment, South Korea.

## **Research Assistant Experience**

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**Bera, Anil K. Professor of Economics, University of Illinois Urbana-Champaign, USA.**

2023 Spring (Expected); 2022 Spring, Summer; 2021 Spring, Summer, Fall; 2020 Spring, Summer, Fall; 2019 Fall.

**Chung, EunYi. Assistant Professor of Economics, University of Illinois Urbana-Champaign, USA.**

2018 Spring.

**Lee, June Yub. Professor of Mathematics, Ewha Womans University, South Korea.**

2015 July – December.

**Yoo, Jin Sung. Korea Economic Research Institute, South Korea.**

2015 July – October.

**Kwon, Soonhyun. Ewha Womans University-Industry Collaboration Foundation & Korean Women's Development Institute, South Korea.**

2015 March – July.

**Lee, Sangho. Korea Labor Institute, South Korea.**

2014 October – December.

**Choi, Hyomi. Korea Labor Institute, South Korea.**

2014 July – September.

## **Teaching & Grading Experience**

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**Econometric Analysis I (PhD Core, ECON 532)**

- 2020 (Fall) & 2021 (Fall) & 2022 (Fall) *Grader*, Department of Economics, University of Illinois Urbana-Champaign, USA.

**Econometrics of Policy Evaluation (Undergraduate, ECON 474)**

- 2022 (Spring) *Grader*, Department of Economics, University of Illinois Urbana-Champaign, USA.

**Statistics in Economics (Undergraduate, ECON 202)**

- 2017 (Fall) & 2018 (Spring, Fall) *Discussion Section Instructor and Teaching Assistant*, Department of Economics, University of Illinois Urbana-Champaign, USA.
- 2014 (Fall) & 2015 (Spring) *Discussion Section Instructor and Teaching Assistant*, Department of Economics, Ewha Womans University, South Korea.

**Microeconometrics (Graduate)**

- 2015 (Spring) *Discussion Section Instructor and Teaching Assistant*, Department of Economics, Ewha Womans University, South Korea.

### **Applied Econometrics (Undergraduate)**

- 2014 (Spring) & 2015 (Spring) *Discussion Section Instructor and Teaching Assistant*, Department of Economics, Ewha Womans University, South Korea.

### **Recommendations**

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#### **Anil Kumar Bera (Chair)**

Doctor of Philosophy (PhD) in Economics from the Australian National University

Professor of Economics

University of Illinois Urbana-Champaign

+1 (217) 333-4596 [abera@illinois.edu](mailto:abera@illinois.edu)

#### **EunYi Chung**

Doctor of Philosophy (PhD) in Economics from Stanford University

Assistant Professor of Economics

University of Illinois Urbana-Champaign

+1 (217) 300-4511 [eunyi@illinois.edu](mailto:eunyi@illinois.edu)

#### **Vladimir Hlasny**

Doctor of Philosophy (PhD) in Economics from Michigan State University

Economic affairs officer

United Nations Economic and Social Commission for Western Asia, Beirut

+961 197-8426 [hlasny@un.org](mailto:hlasny@un.org)

### **Technical Skills**

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Matlab, R, Python, SQL, Stata, LaTeX, Git version control, Angular

### **Languages & Citizenship**

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**Language:** Korean (native), English (fluent), Japanese (fluent)

**Citizenship:** South Korea

**1. Testing Endogeneity of Spatial Weights Matrices in Spatial Dynamic Panel Data Models (Job Market Paper) [Manuscript](#) [Presentation Slides](#)**

Abstract: I propose robust Rao's score (RS) test statistic to determine endogeneity of spatial weight matrices in a spatial dynamic panel data (SDPD) model (Qu, Lee, and Yu, 2017). First, I introduce the bias-corrected score function since the score function is not centered around zero due to the two-way fixed effects. Second, I further adjust score functions to rectify the over-rejection of the null hypothesis under a presence of local misspecification in contemporaneous dependence over space, dependence over time, or spatial time dependence. I then derive the specific forms of the test statistic. A Monte Carlo simulation supports the analytics and shows its nice finite sample properties in terms of size and power. Finally, an empirical application in the neoclassical growth model is provided using data from Penn World Table version 7.1.

Key words: Endogenous spatial weight matrices, spatial dynamic panel data (SDPD) model, score test, local parametric misspecifications, adjustment.

JEL codes: C13, C23, C31, C33.

**2. Evidence and Strategy on Economic Distance in Spatially Augmented Solow-Swan Growth Model [Manuscript](#)**

Abstract: Economists' interests in growth theory have a very long history (Harrod, 1939; Domar, 1946; Solow, 1956; Swan 1956; Mankiw, Romer, and Weil, 1992). Recently, starting from the neoclassical growth model, Ertur and Koch (2007) developed the spatially augmented Solow-Swan growth model with the exogenous spatial weights matrices ( $W$ ). While the exogenous  $W$  assumption could be true only with the geographical/physical distance, it may not be true when economic/social distances play a role. Using Penn World Table version 7.1, which covers year 1960-2010, I conducted the robust Rao's score test (Bera, Dogan, and Taspinar, 2018) to determine if  $W$  is endogenous and used the maximum likelihood estimation (Qu and Lee, 2015). The key finding is that the significance and positive effects of physical capital externalities and spatial externalities (technological interdependence) in Ertur and Koch (2007) were not found with the exogenous  $W$ , but still they were with the endogenous  $W$ . I also found an empirical strategy on which economic distance to use when the data recently has been under heavy shocks of the worldwide financial crises during year 1996-2010.

Key words: Spatially augmented Solow-Swan growth model, endogenous spatial weights matrices, economic distance, geographic distance, physical capital externalities, technological interdependence, spatial externalities.

JEL codes: C31, E13, F43, O47.

### **3. Investment in social capital by the Korean elderly and baby-boomers [Manuscript](#)**

Abstract: Social capital (SC) is both an input and an output of individuals' economic choices, but relatively little is known about SC investment, particularly in individuals' old age. With a premise that SC is an individual-level concept in which individuals purposely invest, we estimate elderly individuals' stock and investment in SC using principal component analysis of their social engagement, networks, and trust in social institutions. We describe the distribution of the SC stock and investment across various demographic groups. Based on a capital-accumulation model, and using linear regressions and mixture models, we test hypotheses about the drivers – expected benefits, costs, depreciation, preexisting SC, and social-capital in one's community – and trajectories of elderly individuals' SC investment. Implications for their life satisfaction are also assessed.

Using four waves of the Korean Longitudinal Study of Ageing, we find that the elderly exhibit gradual attrition of SC, but women retain more SC on account of better mental health and higher returns on investment from lower starting points. Expected returns on SC are associated positively with individuals' investment, while the opportunity cost of one's time and SC depreciation are associated weakly negatively with it. Physical and human capital are complementary to SC, encouraging investment. Community-level stock and investment in SC lead to higher investment by individuals themselves.

Key words: Social capital, Networks, Baby-boomers, Ageing, Mixture model of group-based developmental trajectories.

JEL Codes: J14, E24, J26.