

SIWON RYU

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Research Fields

Econometrics, Program Evaluation, Network Economics, Health Economics.

Education

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| Ph.D. Economics, Rice University | May 2025 (expected) |
| M.A. Economics, Seoul National University | 2020 |
| B.A. Economics, Kyung Hee University | 2017 |

Honors

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| John R. Kelly Graduate Student Teaching Prize in Economics, Rice University | 2023 |
| Robin C. Sickles Award for Best Performance in Qualifying Exams, Rice University | 2022 |
| Maria Esther and Carlos Linares Award for Best Performance in First-Year Courses, Rice University | 2021 |
| Graduate Fellowship, Rice University | 2020-Present |

Working Papers

“Decomposition of Causal Effect with Interference Accounting for Network Change” (Job market paper)

Abstract: Recent empirical studies emphasize the importance of indirect, or spillover, effects of a program or policy. These studies usually assume that the underlying network is fixed or unaffected by the program. However, some empirical evidence suggest that the treatment can also have significant network effect. This paper studies the identification and estimation of causal treatment effects while explicitly considering possible network changes resulting from a program. The main finding is the decomposition of the causal effects into two distinct parts: the effect of treatment when the network remains unchanged and the effect when only the network structure is changed by the treatment. This result enhances our understanding of the mechanisms of a policy/program through the consideration of counterfactual scenarios in which the network is either changed or unchanged due to treatment. The proposed method is applicable in randomized experiments as well as in quasi-experimental situations with parallel trend. A simple estimation procedure for causal effects and their decomposition is proposed, with its performance evaluated using a Monte Carlo simulation and illustrated with data from a program offering savings accounts. The empirical findings show that the direct effect consists of a positive pure treatment effect and a negative network effect, while the indirect effects are not statistically significant.

“Local Average Treatment Effects with Imperfect Compliance and Interference” (Submitted, *Journal of Econometrics*)

“Direct and Indirect Treatment Effects with Social Interaction”

Work in Progress

“Heterogeneous Parental Labor Supply Responses to Children’s Severe Health Shocks: Evidence from Administrative Data from South Korea” with Jungmin Lee and Hyuncheol Bryant Kim

“Financial Development and Trade Network Formation” with Daeun Bae

Teaching and Research Experience

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| Teaching Assistant, Rice University — Econometrics I (G), Econometrics II (G) | 2021-Present |
| Teaching Assistant, Seoul National University — Econometrics (G), Topics in Econometrics (G) | 2018-2019 |
| Teaching Assistant at Kyung-Hee University — Macroeconomics I (UG), Macroeconomics II (UG) | 2015 |
| Research Assistant with Professor Yoon-Jae Whang, Seoul National University | 2018-2020 |
| Research Assistant with Professor Jungmin Lee, Seoul National University — “Establishment The Database for The Socio-Economic Level of Korea” using Database of Korea National Insurance Service (NHIS) | 2018-2019 |
| Research Assistant with Professor Jungmin Lee, Hyuncheol Bryant Kim, Jisoo Hwang, Seoul National University — “Job Displacement and The Economic, Health Outcomes” using Database of Korea National Insurance Service (NHIS) | 2019-2020 |
| Science Korea Research Assistantship, Korea Research Foundation | 2019-2020 |
| Brain Korea 21 Plus Research, Seoul National University | 2018 |

Professional Experience

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| Research Assistant, Korea Institute for Industrial Economics and Trade (KIET) | 2014 |
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Conferences and Seminars

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| Brown-Bag seminar, Rice University | 2022, 2023, 2024 |
| Texas Econometrics Camp Conference | 2024 |

Skills

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| Programming: | Matlab, Stata, Mata, SAS, SAS-IML, R, Python, Julia, SQL |
| Others: | Git, HTML&CSS |
| Languages: | English (Fluent), Korean (Native) |

References

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| Professor Xun Tang (Chair) Department of Economics Rice University xun.tang@rice.edu | Professor Matthew Thirkettle Department of Economics Rice University matthew.thirkettle@rice.edu | Professor Isabelle Perrigne Department of Economics Rice University isabelle.perrigne@rice.edu |
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