

# Byunghun Hahn

## Website

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Email: bhhahn@snu.ac.kr



## Education

- 2024–present    **Seoul National University**  
Master's Student, Department of Economics  
GPA : 4.11/4.30 (3.92/4.00)
- 2018–2024      **Seoul National University**  
B.A. in Economics, *Summa Cum Laude*  
GPA : 4.09/4.30 (3.89/4.00)
- 2020–2021      **Sergeant, Korean Army (3rd Armored Brigade)**  
– Graduated as valedictorian, Army Administrative School  
– Selected as one of five members of the Korean Army Reform Committee  
– Represented the committee as the sole presenter at the Three-Star General Meeting, chaired by the Chief of Staff of the Korean Army

## Honors and Awards

1. 2025 KFAS Training Program for Overseas PhD Scholarship  
– *Awarded to only 2–3 candidates in economics across Korea each year.*
2. 2024 Undergraduate Independent Study Award, Seoul National University  
“Evaluating the performance of different high school types: Based on the change of Korean University Entrance System”
3. 2023 Academic Excellence Scholarship, Seoul National University
4. 2016 Hanseong Nobel Young Talent Scholarship, Hanseong Sonjaehan Scholarship  
– *Awarded to only 30 candidates in social sciences among Korean high school students.*

# Articles

## 1. [Co-Author]

**Rationality-Based Preference Aggregation** (with Syngjoo Choi, Booyuel Kim, Min-seon Park, Yoonsoo Park, Euncheol Shin / work in progress)

We study three fundamental questions on group decisions: (1) Does group rationality originate from individuals' rationality? (2) Are members' risk preferences reflected in group decisions? (3) Does the more rational individual exert greater bargaining power? In our experiment, the subjects made choices over a consumption bundle on a linear budget set, 18 times in isolation, and 18 times in pairs. We use a non-parametric revealed preference approach to measure individual rationality. Several results emerge from our analysis. First, we observe strong evidence for rationality extension and preference aggregation. Second, the more rational individual exerts greater bargaining power. Specifically, group decisions are closer to the preferences of the more rational individual, both in terms of rationality and risk preferences. We propose a non-parametric revealed preference index to measure individual bargaining power in group decisions and validate it through numerical simulation.

## 2. [Single-Author]

**Better or Worse? Biased Decisions from Human-Machine Collaboration** (work in progress) [Link](#)

Korea Baseball Organization (KBO) introduced the replay review system to improve the accuracy and fairness of umpire decisions in 2014. However, our empirical results show that the winning probability of the home team has significantly increased after the implementation, which implies that the introduction of the video review system deteriorated the fairness of the umpires' decisions. The main reason for these unexpected phenomena is that the replay review is only conducted upon a team's request, and each team is allowed a maximum of two requests. Our theoretical model shows that umpires have asymmetric incentives in decision making, as they are much more afraid of having their original decisions overturned when those decisions are unfavorable to the home team. This gives an implication on the situation where the decision-making is being made by humans as well as machines. It may be expected that better decision making is possible when humans get help from machines. However, under an imperfect system design, the introduction of machines may distort human incentive and the decision-making process.

### 3. [Single-Author]

#### **Are Young Criminals Rational?** (work in progress) [Link](#)

We develop a model in which individuals accumulate two types of human capital: legal and crime-specific, both of which are accumulated through learning by doing. Juveniles in their final year before losing juvenile status anticipate higher future costs of crime, giving them an incentive to shift effort toward legal work. Our model predicts that individuals on the verge of this transition are more likely to desist from crime even before reaching the age of criminal majority. Using FBI arrestee data, we empirically validate this. Exploiting policy changes in four states that raised the age of criminal majority from 17 to 18, we find causal evidence that juveniles in their final year of being legally treated as juveniles commit fewer crimes than other age groups.

### 4. [Single-Author] supervised by Prof. Jungmin Lee (Undergraduate Independent Study Program)

#### **Evaluating the performance of different high school types: Based on the change of Korean University Entrance System** (Written in Korean, Awarded Undergraduate Independent Study 2024 at SNU)

In Korea, there are two types of university entrance systems: Jeongsi, based on a single Korean SAT score, and Susi, based on three years of high school grades. Starting from 2022, Korea increased the proportion of Jeongsi from 23% to 40%. We examine the impact of this policy by analyzing Seoul National University acceptance rates from 2018 to 2023 across different types of high schools. The results show that high schools in wealthy areas, the three Gangnam districts, saw a significant increase in acceptance rates. In contrast, specialized high schools did not experience a notable increase, and non-metropolitan high schools saw a decline.

### 5. [Single-Author]

#### **Calculating the Difficulty of Platform Change** (Preliminary)

We consider various network structures and show that the acceptability of a new platform greatly depends on the structure of the existing network. Theoretic Analysis indicates that in the past where people were mostly engaged in a small local interaction, it can be easier to accept a new superior platform. Also, We show that unequal power distribution inside a network and the existence of an influencer would make the acceptance of a new superior platform easier.

## RA Experience

1. **Rationality Extension, Preference Aggregation, and Pareto Efficiency of Group Decision under Risk** (Syngjoo Choi, Booyuel Kim, Minseon Park, Yoonsoo Park, Euncheol Shin)  
February 2025-present (Data Analysis)
2. **The Impact of Idea-Creating Classes on the Development of Creativity** (Syngjoo Choi, Sejik Kim)  
2023–2024 (Survey Data Collection and Analysis)
3. **Impact Evaluation of Seoul Safety Income Project** (Hyuncheol Bryant Kim, Minki Kim, Jugmin Lee, Seung-hun Lee, Sangyoon Park)  
June 2024-present (Data Analysis)
4. **The Impact of Inter-Village Competition on Collective Action: Experimental Evidence from Myanmar and Cambodia** (Syngjoo Choi, Yoonjei Michell Dong, Booyuel Kim, Taejong Kim, Hee-Seung Yang)  
September 2024-present (Data Analysis)

## TA Experience

1. Dynamic Macroeconomics (2024 Fall, Prof. Sejik Kim)
2. Microeconomics (2025 Spring, Prof. Syngjoo Choi)
3. Behavioral Economics (2025 Fall, Prof. Syngjoo Choi)

## Computer Skills

Python (Econometric Analyses, Web Crawling, Machine Learning, Simulation)

Stata (Econometric Analyses)

R (Econometric Analyses, Visualization)

## Language Skills

English (Fluent), Korean (Native)

TOEFL : 110 Reading (28) Listening (28) Speaking (26) Writing (28)

GRE : Verbal (158) Quant (170) Writing (4.0)