Bomi Kang

Email: bomi.kang@duke.edu
Phone: (984)260-1478
Address: Duke University, 213 Social Sciences, 419 Chapel Drive, Durham, NC 27705

EDUCATION

Ph.D. Economics, Duke University 2021 -
M.A. Economics, Yonsei Univerisity 2021
B.A. Economics & Applied Statistics, Yonsei University 2019

PUBLICATION

"Income Types and Entertainment Consumptions" with Kyung-woo Lee. *The Korean Journal of Economics* (2019).

WORKING PAPER

"AI Adoption in Competition: Evidence from AlphaGo"

PRESENTATION

KAIST, Korea University, Korean Association of Public Policy, Yonsei University.

RESEARCH EXPERIENCE

Duke University, RA for Bocar Ba
Yonsei University, RA for Youjin Hahn
Yonsei University, RA for Jinook Jeong
Yonsei University, RA for Center for Research in Experimental and Theoretical Economics (CREATE)

TEACHING EXPERIENCE

TA for Atila Abdulkadiroglu, Intermediate Microeconomics
TA for John Graham, Corporate Finance
TA for Thomas Nechyba, Intermediate Microeconomics
TA for Kyung-woo Lee, Public Finance
TA for Sun-bin Kim, Dynamic Analysis of Macroeconomy

SCHOLARSHIPS AND AWARDS

Duke Graduate School Fellowship
Duke Graudate School Summer Research Fellowship
Duke Ph.D. First-year Fellowship
Yonsei Academic Merit Based Scholarship
Yonsei Brain Korea 21 Plus Fellowship
Yonsei Summer Abroad Visiting Scholar Program Fellowship

LANGUAGES

English (fluent), Korean (native)

PHD COURSES

Productivity	Finance - Asset Pricing	Nonparametric Estimation
(Quasi-) Experimental Methods	Machine learning in Economics	Partial Identification and IO
Beliefs and Learning	Dynamic Discrete Choice	Industrial Organization
Python	STATA	Econometrics
Macroeconomics	Microeconomics	Mathematics for Economists

REFERENCE

Daniel Yi Xu, Professor of Economics at Duke University

My current project, "AI Adoption in Competition: Evidence from AlphaGo", focuses on the individual-level knowledge spillovers in a competitive context. It explores the strategic use of AI, particularly through AlphaGo, an AI software developed by Google to play the board game Go. This study identifies early adopters of AlphaGo's innovative techniques and analyzes how productivity evolves post-AI integration, determining who benefits most from its adoption.

This study stands out for two primary reasons: First, it provides an ideal setting to explore the consequences of AI adoption in a competitive context by leveraging the zero-sum nature of Go. Second, it utilizes an extensive dataset comprising detailed game records to track the adoption of AlphaGo's innovative strategies and productivity at the individual level.

Our results indicate that an early-adopter advantage exists, wherein initial users experienced enhanced winning probabilities during the early period. However, as AlphaGo became more widespread over time, its direct impact on game outcomes diminished. From that point, players with more extensive AI experience (those who adopted it earlier and accumulated greater skills) demonstrated improved performance. Through these dynamics, early adopters, primarily younger and highly skilled players, experienced significant improvements in their rankings post-adoption.

My future research aims to explore the link between housing wealth and entrepreneurship. By leveraging plausibly exogenous shocks to housing prices, I intend to explore homeowners' decision to start new businesses. The existing literature lacks a comprehensive examination of individual-level heterogeneity because identifying the impact of housing price growth on entrepreneurship is challenging due to data limitations. Most rely on the use of categorized survey data for house prices instead of actual market values.

I propose to address these limitations by combining employer-employee matched data with home ownership information in São Paulo. This approach will enable an analysis of how changes in housing wealth influence entrepreneurial activity. Specifically, I plan to 1) identify who is more likely to sort into entrepreneurship in response to wealth changes, 2) analyze the preferences of these entrepreneurs in terms of the location and types of firms, and 3) explore how these startups evolve over time, such as their approach to labor allocation.

The focus of the Entrepreneurship Boot Camp perfectly aligns with my research interest. Connections with experts and peers in the boot camp could offer new insights. I believe this networking would be invaluable for gaining fresh perspectives and potential collaborative opportunities.

Duke
UNIVERSITY
Department of Economics

213 Social Sciences Building
419 Chapel Drive, Campus Box 90097
Durham, North Carolina 27708-0097

Telephone: (919) 660-1800
Fax: (919) 684-8974
www.duke.edu

To Whom It May Concern:

I am pleased to recommend Bomi Kang, a doctoral student in the Department of Economics at Duke University, for the NBER Entrepreneurship Research Boot Camp. Over two years of supervision, Bomi has consistently shown a strong commitment to formulating relevant research questions. She is now actively engaged in promising projects on innovation, entrepreneurship, and climate change.

In particular, Bomi's main project aligns well with the NBER boot camp's focus. Her work utilizes decades of matched employer-employee data from Brazil to examine changes in entrepreneurial activities following natural disasters. This rich dataset allows for an exploration of variations across economic sectors, geographic locations, and the socioeconomic backgrounds of entrepreneurs. This investigation is particularly pertinent given the rising frequency of extreme weather events linked to climate change—a trend she also documents in her data.

In a separate project, Bomi investigates the adoption of AI technology and its impact on individual productivity and competitive advantage, with a focus on knowledge spillovers in competitive settings. Specifically, she examines the introduction of the AlphaGo algorithm in the professional Go community. This traditional and complex board game offers a unique context to study technology adoption patterns. The diverse responses of players, especially in terms of adoption speed, provide valuable micro-level insights into technology adoption.

Bomi's active participation in academic seminars and workshops demonstrates her dedication to academic growth and her openness to feedback from peers and mentors. Her attendance at the 2023 NBER Digital Economics Conference significantly benefited her AI technology adoption project. The NBER Entrepreneurship Research Boot Camp represents an excellent opportunity for her to refine her research perspective, particularly in the realm of entrepreneurial decision-making.

In conclusion, Bomi Kang's participation in the NBER Entrepreneurship Research Boot Camp would not only enhance her understanding of current research in the field but also significantly contribute to the development of her projects. I wholeheartedly recommend her for this program and am available to provide any further information about her achievements and potential.

Best,

Daniel Yi Xu

Professor of Economics, Duke University