Kyoungah Noh

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January 8, 2023

Dear NBER Innovation Research Boot Camp 2023,

I am writing to apply for NBER Innovation Research Boot Camp 2023. I am currently Ph.D. candidate at the University at Albany, SUNY, where I am due to complete my Ph.D. requirements by May 2024. I am working on dissertation under the direction of Dr. Chun-Yu Ho. I believe that my previous research and professional experience and teaching experience make me a strong candidate for the position.

As my Curriculum Vitae demonstrates, my current research paper examines how paid family leave (PFL) programs affect innovation activities of women inventors and the aggregate innovation outcomes. We specifically investigate whether the effects of the PFL programs vary by firm type or technological fields. Using USPTO PatentsView data from 1980 to 2019 with difference-in-difference empirical strategy, we find that the implementation of PFL attracts more female inventors, and this effect is larger for young firms. Additionally, we find that adopting the law improves aggregate innovation outcomes, and this effect is stronger for male-dominated fields. Our findings suggest that the state-level PFL programs could have a larger effect on smaller firms or male-dominated fields by reducing disparities in leave access across firm types or fraction of female. Furthermore, my future paper will focus on team persistence during the COVID-19 pandemic. NBER Innovation Research Boot Camp 2023 would be a great opportunity for me to develop knowledge on the economics of innovation.

Prior to my academic career I worked as a researcher for the Korea Development Institute (KDI), one of the leading think tanks in South Korea, from 2016 to 2017. I conducted research on mortgage lending trends, and these reports were published as a part of Monthly Economic Trends. I also worked as a researcher for the Bank of Korea Economic Research Institute (BOKERI). I participated in research about demographic policies against population aging in OECD. I belive that these work experiences provide me with a broad perspective of applied microeconomics.

I have enclosed my curriculum vitae and statement of research interests. I am looking forward to hearing from you regarding next steps. Thank you for your time and consideration.

Kind Regards,

Kyoungah Noh
Applicant
Name of a recommendation letter writer: Prof. Chun-Yu Ho

KYOUNGAH NOH

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EDUCATION

Ph.D., Economics, University at Albany, SUNY 2019-present
M.A., Economics, Sungkyunkwan University, South Korea 2016
B.A., Economics, Hongik University, South Korea 2014

RESEARCH INTERESTS

Primary Fields: Labor Economics
Secondary Field: Industrial Organization, Health Economics

WORK IN PROGRESS

"The effects of paid family leave program on women's labor market outcomes and leave-taking: Evidence from New York's 2018 policy"

"Paid Family Leave and Innovation: Women Inventors on U.S. Patents," (with Chun-Yu Ho, Gerald Marschke and Wong Sung).

"The Effects of Nurse Shortages on Patient Health: Evidence from Paid Family Leave Program"

"Team Persistence during the COVID-19: Evidence from U.S. Inventor Data"

RESEARCH AND PROFESSIONAL EXPERIENCES

Research Associate Bank of Korea (BOK), Seoul, South Korea May 2017 - August 2017

Research Associate Korea Development Institute (KDI), Sejong, South Korea July 2016 - May 2017

Research Assistant Korea Institute for Development Strategy, Seoul, South Korea July 2017 - February 2018

TEACHING EXPERIENCES

Instructor, University at Albany, SUNY
Principles of Economics I: Microeconomics (Undergraduate) Fall 2021, Summer 2022, Fall 2022

Teaching Assistant, University at Albany, SUNY
Economics of Labor (Undergraduate) Spring 2022
Economics of Health (Undergraduate) Spring 2021, Fall 2020
Financial Economics (Undergraduate) Fall 2019

Undergraduate Tutor, University at Albany, SUNY Spring 2020

CONFERENCE PRESENTATIONS (* DENOTES SCHEDULED)

Advancing Policy Research with Cross-Disciplinary Perspectives (APPAM) Conference, Washington D.C. Nov. 2022

Eastern Economic Association (EEA) Conference*, New York Feb. 2023

HONORS AND AWARDS

Graduate Assistantships Fall 2019-Spring 2022

LIST OF ALL CURRENT AND COMPLETED PH.D. COURSES

- Workshop in Microeconomics — Fall 2022
- Advanced Topics in Applied Economics (Health Economics) — Spring 2022
- Advanced Topics in Theory and Econometrics (Industrial Organization)
- Workshop in Microeconomics
- Public Finance II, Advanced Research Topics, Workshop in Microeconomics — Fall 2021
- Applied Econometrics, Advanced Topics in Theory and Economics (Advanced Macroeconomics) — Spring 2021
- Workshop in Econometrics
- Econometrics III, Public Finance I — Fall 2020
- Advanced Topics in Theory and Econometrics (Time Series of Econometrics)
- Econometrics II, Microeconomics II, Macroeconomics II — Spring 2020
- Econometrics I, Microeconomics I, Macroeconomics I, Mathematical Economics I — Fall 2019

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Statement of Research Interests

My research interests are the economics of innovation. Current research paper focuses on the impact of family-friendly workplace polices on labor market outcomes. Our empirical analysis leads to several conclusions by subgroups. First, the adoption of Paid Family Leave (PFL) programs attracts more female inventors and improves job continuity in smaller firms. It supports our hypothesis that the effect of the law could be larger for women inventors working in these firms since they faced a relatively higher risk of quitting their job after birth of child due to a lack of family-friendly policies provided by employers. Second, we find that low-income women inventors who are main beneficiaries of the law produce more innovation outcomes when state-level PFL expand the availability and generosity of paid leave. Third, in consistent with an increase in women inventors in smaller firms, the implementation of PFL provides more opportunities for collaboration in smaller firms as well. We find that both team size and mixed-gender team significantly increase in these firms. Lastly, state-level analyses using all inventors including both male and female inventors provide empirical evidence that the implementation of PFL improves aggregate innovation outcome, and the impact is stronger for male-dominated fields.

As a job market paper, future research paper will focus on team persistence during the COVID-19 pandemic. To estimate team persistence, this paper limits sample to a pair of inventors that worked together on patent that has two or more inventors, and the unit of observation is a patent. We expect that team with more firm-specific human capital are not negatively affected during that time, which implies that they can produce more collaborative invention during that time.

If I can attend the 2023 NBER Innovation Research Boot camp, it would be a great opportunity to develop knowledge in the economics of innovation. Specifically, I would like to investigate the timing of patents. Due to time lag between the priority date and application year, using the application date isn't good for comparing persistence across the two periods because it introduces much noise. The boot camp will provide me a great chance to discuss related topics with the innovation research community.

Paid Family Leave and Innovation: Women Inventors on U.S. Patents (Chun-Yu Ho, Gerald R. Marschke, Kyoungah Noh, and Won Sung):

The provision of paid maternity leave is intended to allow new mothers paid time off work to recover from the birth of child and promote women's labor force attachment. In this paper, we study the impact of Paid Family Leave (PFL) policies on innovation activities of women inventors and the aggregate innovation outcomes. We specifically investigate whether the effects of the PFL programs vary by firm type or technological fields. Using USPTO PatentsView data from 1980 to 2019 with difference-in-difference empirical strategy, we provide several findings by subgroups. First, we find that the implementation of PFL attracts more female inventors, and this effect is larger for young firms. Second, we show that paid leave mandates support middle-aged or older female inventors to remain longer in the workforce and improve innovative working environment including team size and gender diversity in young firms as well. Additionally, we find that adopting the law improves aggregate innovation outcomes, and this effect is stronger for male-dominated fields. Our findings suggest that the state-level PFL programs could have a larger effect on smaller firms or male-dominated fields by reducing disparities in leave access across firm types or fraction of female.

Team Persistence during the COVID-19: Evidence from U.S. Inventor Data:

Continuity in teamwork improves team productivity. This paper examines how team persistence has been affected during the COVID-19 pandemic. Inventors may have difficulty communicating with co-inventors because they were offered remote work during that time. It implies that inventors are increasingly unlikely to collaborate with other inventors in a team. On the other hand, inventor with high team-specific capital may be not negatively affected by the remote work because collaborative dynamics in the team are unique and difficult to rebuild with other collaborators. Due to time lag between priority date and application year, we substitute priority date of a patent for application date as a proxy for the invention date since the priority date is close to the time of invention. Using data from United States Patent and Trademark Office (USPTO), we find that teams with more firm-specific human capital tend to be larger and are more likely to repeat during the COVID-19 pandemic.