Seula Kim

816 Easley street Apt 907, Silver Spring, MD 20910
Phone: (301) 646-4765 | Email: seulakim@umd.edu

March 17, 2020

National Bureau of Economic Research
1050 Massachusetts Avenue
Cambridge, MA 02138-5398

Dear whom it may concern,

I am writing to express my sincere interest in the NBER Entrepreneurship Research Boot Camp 2020. I am currently a third-year Ph.D. student in the Department of Economics at the University of Maryland. Please accept this letter and accompanying curriculum vitae and essay, along with a letter of recommendation from Professor John Haltiwanger as my application for this program.

My primary research interest lies in the field of macroeconomics, entrepreneurship, and firm dynamics. My intellectual curiosity in entrepreneurship research started with some entrepreneurial experiences around me. My uncle and college friends who launched high-tech startups faced a lot of difficulty with hiring workers, and some even closed the business within a few years. It gave me a strong interest in studying potential barriers to the growth of young firms and their macroeconomic implications. It was reinvigorated when I learned the role of young firms in the U.S. economy in Professor Haltiwanger's class. My primary on-going research is to understand the importance of workers' job prospects at young firms in determining the growth paths of young firms through the formation of wage premia. I am currently in the stage of conducting theoretical analysis by building a heterogeneous firm model with a frictional labor market and solving it to match the U.S. data. In my other joint work, procyclical young firm performance is investigated through the lens of firms' optimal product switching decisions. Both projects would be the first step for me to fulfilling my broad research agenda of exploring potential channels that promote or hamper the growth of young firms and accounting for business dynamism in different environments.

I have honed multi-dimensional research skills during my graduate studies, which I believe will be an invaluable asset to carry out my research in entrepreneurship. The Ph.D. courses taken at the University of Maryland fostered my computational skills to solve heterogeneous agent models and to acquire a comprehensive understanding of the theoretical framework in macroeconomics. Moreover, my research experience as a research associate at the Bank of Korea Economic Research Institute and as a research assistant for Professor Jae Won Lee greatly helped me to attain substantial proficiency in building/solving macroeconomic models and conducting data analysis.

Given my passion for entrepreneurial research and extensive research experience, I believe that I would be an ideal candidate for the NBER Entrepreneurship Research Boot Camp 2020. It would be a unique opportunity for me to gain a richer understanding of literature in the field of entrepreneurship economics and further develop my research. It would also enable me to have professional interactions with top-notch researcher professors and future colleagues in the field, from whom I expect to get the utmost motivation and inspiration.

I look forward to hearing from you about the opportunity to participate in this program. Thank you so much for your time and consideration in advance.

Sincerely,
Seula Kim

SEULA KIM

University of Maryland
Department of Economics
College Park, MD 20742
Phone: (301) 646-4765
Email: seulakim@umd.edu

EDUCATION

Ph.D. Economics, University of Maryland, 2017 - Present
M.A. Economics, University of Maryland, 2019
M.A. Economics, Seoul National University, South Korea, 2017
B.A. Economics (Major) and Financial Economics (Combined Minor), *Summa Cum Laude*, Seoul National University, South Korea, 2015

FIELDS OF SPECIALIZATION

Primary: Macroeconomics, Entrepreneurship and Firm Dynamics
Secondary: International Trade and Economic Policy

WORK IN PROGRESS

"What Determines Market Concentration in Korea: A Cross-country Firm-level Analysis"

"Workers' Job Prospects, Wage Premium, and Young Firm Dynamics"

"Young Firm Innovation, Product Switching, and Growth over the Business Cycle" (with Karam Jo)

PUBLICATION

"Sectoral Heterogeneity in Nominal Rigidities in Korea: Implications for Monetary Policy" (with Prof. Jae Won Lee), *Korean Economic Review* Volume 36, Number 1, Winter 2020, 59-99.
[Journal Page]

Abstract: This paper documents how the frequency of price changes differs across sectors in Korea and what implications such heterogeneity may have for monetary policy. Under heterogeneity, i) monetary policy has larger and more persistent real effects, ii) stabilizing an alternative (optimal) price index that places disproportionately larger weights on "sticky" sectors rather than the consumer price index is welfare improving, iii) the central bank, targeting such an alternative index, should move nominal interest rates slowly, which may justify "gradualism" in monetary policy, and iv) the condition for equilibrium determinacy is different. The results suggest that the monetary authority must consider how firms' pricing behaviors differ across sectors in the design of monetary policy.

RESEARCH AND RELEVANT WORK EXPERIENCE

Research Associate, The Bank of Korea Economic Research Institute (Micro & Institutional Economics Team), Feb. 2017 - Apr. 2017
Research Assistant, Prof. Jae Won Lee, University of Virginia, Fall 2016

TEACHING EXPERIENCE

Teaching Assistant, Macroeconomic Analysis II (Ph.D. core), Department of Economics, University of Maryland, Spring 2019, Spring 2020
Instructor, Principle of Macroeconomics, Department of Economics, University of Maryland, Summer 2019, Winter 2020

Teaching Assistant, Macroeconomic Analysis I (Ph.D. core), Department of Economics, University of Maryland, Fall 2018, Fall 2019
Teaching Assistant, Money and Banking, Department of Economics, University of Maryland, Spring 2018
Teaching Assistant, Intermediate Macroeconomics, Department of Economics, University of Maryland, Fall 2017
Teaching Assistant, Macroeconomics, Department of Economics, Seoul National University, Fall 2016
Teaching Assistant, Principles of Economics 1, Department of Economics, Seoul National University, Spring 2016
Teaching Assistant, Mathematics for Economics, Department of Economics, Seoul National University, Fall 2015

GRANTS AND AWARDS

Seoul National University Alumni Association Washington DC Scholarship, SNUAA-DC, Winter 2018, Winter 2019
Seoul National University Alumni Association USA Scholarship, SNUAA-USA, Summer 2018
Graduate Assistantship, University of Maryland, Fall 2017 – Present
National Research Fellowship for Humanities, Korea Student Aid Foundation, Spring 2016
Brain Korea 21+ Scholarship, Seoul National University, Fall 2015 – Spring 2016
Excellence Award (2^{nd} place) in International Development Competition, The Export-Import Bank of Korea, Winter 2014
Merit-based Scholarship, Seoul National University, Fall 2012 – Fall 2014
Superior Academic Performance Scholarship, Seoul National University, 2010

COMPUTATION SKILLS

MATLAB, Dynare, Stata, SAS, Eviews, RATS

LANGUAGES

Korean (native), English (fluent), French/Spanish/Chinese (basic)

LIST OF PH.D. COURSES

Fall 2017	Macroeconomic Analysis I (ECON 601) Microeconomic Analysis I (ECON 603) Econometrics I (ECON 623) Pre-candidacy Research (ECON 898)
Spring 2018	Macroeconomic Analysis II (ECON 602) Microeconomic Analysis II (ECON 604) Econometrics II (ECON 624) Pre-candidacy Research (ECON 898)
Fall 2018	Computational Methods in Macroeconomics (ECON 630) Advanced Macroeconomics I (ECON 701) Advanced International Economics I (ECON 741) Pre-candidacy Research (ECON 898)
Spring 2019	Advanced Macroeconomics II (ECON 702) Advanced International Economics II (ECON 742) Advanced Topics in International Trade (ECON 745) Pre-candidacy Research (ECON 898)
Fall 2019	The Macroeconomics of Imperfect Capital Markets (ECON 747)[1] Doctoral Dissertation Research (ECON 899)
Spring 2020	Workshop on Macroeconomics, International Macroeconomics and International Finance (ECON808) Advanced Topics in Applied and Theoretical Macroeconomics (ECON 709)[2] Doctoral Dissertation Research (ECON 899)

[1] Audited course
[2] Workshop

Essay for the NBER Entrepreneurship Research Boot Camp 2020

Seula Kim
(Department of Economics, University of Maryland)

My initial curiosity in entrepreneurship research was raised when I saw some entrepreneurial experiences around me during my undergraduate years. My uncle launched a high-tech startup that developed digital broadcasting equipment in Korea and faced a lot of difficulties in attracting and retaining workers at the initial stage. Even though he had great ideas to start his own company, he struggled in hiring the right talents and materializing the ideas efficiently. Similarly, some college friends who built a computer software startup had to close the business within a few years due to continuous difficulty in finding qualified workers. From these experiences, I learned that entrepreneurship could be hamstrung due to hiring talents barriers, regardless of entrepreneurs having outstanding ideas. I wondered whether entrepreneurship failures in Korea stemmed from workers' desire for job security, which incentivizes most college graduates to seek risk-free jobs at government or large conglomerates, and whether it could account for the lack of entrepreneurial activity and growth in Korea.

This question was revisited in a broader sense when I took Professor Haltiwanger's class at the University of Maryland. One of the interesting topics was the fast growth of young firms and its macroeconomic implications in the U.S., which triggered my curiosity about entrepreneurship research again. As in Decker et al. (2014), Haltiwanger (2012), and Haltiwanger et al. (2016), young firms disproportionately contribute to job growth and enhance productivity by creative destruction in the U.S. Thus, what determines the growth of young firms is an important research agenda for the U.S. economy. Especially when I encountered that young firm dynamics vary not just across countries but also across sectors and over the economic cycles within the U.S., I was reinvigorated with the following questions: why do young firms in a certain environment grow fast and drive vibrant firm dynamism?; what are the potential factors that promote or hamper the growth of startups and young firms?; how can these factors explain the different young firm dynamics across countries, sectors, or over the business cycles? Given these questions, I decided to investigate entrepreneurship research with full excitement to fulfill my long-lasting curiosity.

My past experiences and ongoing curiosity culminated in my third-year paper titled "Workers' Job Prospects, Wage Premium, and Young Firm Dynamics." The main idea of this paper is that workers' uncertainty about young firms' prospects generates wage premia that young firms need to pay to attract workers, which negatively affects the growth paths of young firms. In other words, given young firms' lack of a track record and stability, they need to compensate workers for the uncertainty, and workers' beliefs about job prospects can affect young firms' wage trajectories and growth path. Moreover, the wage premia could vary with sector/country characteristics or with the state of the business cycle, which can help explain sectoral/cross-country and cyclical growth patterns of young firms. To formalize this hypothesis, I build a model that introduces a learning process about firms' type into a multi-worker search matching framework based on Jovanovic (1982) and Elsby and Michaels (2013). I am currently in the stage of solving the model and drawing out model implications about how wage premia are generated for young

firms and how such premia affect young firm dynamics under different parameters for workers' beliefs. In the near future, I plan to calibrate the model to quantitatively analyze the mechanism and test the main implications: depending on workers' beliefs which vary across sectors/countries and over the business cycle, wage premia vary and affect young firms' growth dynamics.

In my other joint work with Karam Jo, a Ph.D. candidate at the University of Maryland, we study procyclical young firm performance through the lens of firms' optimal product switching decisions. The main hypothesis of this paper is that product portfolios for firms born in the recessions become sub-optimal due to the increased defensive motivation for incumbent firms and this hampers their growth. We argue that during the recessions, incumbent firms prefer to invest in their products rather than in risky innovations for exploring their fits with new products. The rising defensive motive of incumbent firms makes entrant firms more challenging to find the optimal set of products, which has the best-fit to their expertise. Since product switching strategy in the early stage is crucial for young firms to survive and grow, the performance of firms born in the recessions is worse than those born in normal periods. Currently, we are at the initial stage of constructing datasets to test this hypothesis empirically.

Based on my current work, I plan to study the following topics in my future research. First, I would like to explore the causes and consequences of the declining business dynamism in the U.S. in recent decades. In particular, I would like to investigate how workers' job prospects at young firms and the resulting wage premia for young firms in the U.S. change in recent decades, and whether it could be a potential channel to understand the recent decline in the pace of entrepreneurship. Second, I would like to scrutinize worker composition of (high growth) young firms and how it changes along the life cycle of firms. Specifically, I would like to identify the types of workers or skills that are important for young firms' performance and examine how efficiently young firms are matched with the right skills over time. Further investigation of potential factors that affect matching efficiency for young firms would also help us account for young firms' growth and creative destruction.

I am applying for the NBER Entrepreneurship Research Boot Camp 2020, as it will allow me to enrich my understanding of entrepreneurship research and to explore research ideas and questions that are of interest in the field. Additionally, it offers a unique opportunity for me to have professional interactions with prominent researchers and future colleagues in the field of entrepreneurship. Overall, I believe that it will be a valuable experience for me to get the utmost inspiration and develop my research in the field of entrepreneurship.

References

Decker, Ryan, John Haltiwanger, Ron Jarmin, and Javier Miranda, "The role of entrepreneurship in US job creation and economic dynamism," *Journal of Economic Perspectives*, 2014, *28* (3), 3-24.

Elsby, Michael WL and Ryan Michaels, "Marginal jobs, heterogeneous firms, and unemployment flows," *American Economic Journal: Macroeconomics*, 2013, *5* (1), 1-48.

Haltiwanger, John, "Job creation and firm dynamics in the United States," *Innovation policy and the economy,* 2012, *12* (1), 17-38.

Haltiwanger, John, Ron S Jarmin, Robert B Kulick, and Javier Miranda, "High growth young firms: Contribution to job, output and productivity growth," *US Census Bureau Center for Economic Studies Paper No. CES- WP-16-49*, 2016.

Jovanovic, Boyan, "Selection and the Evolution of Industry," *Econometrica: Journal of the Econometric Society*, 1982, pp. 649–670.

UNIVERSITY OF MARYLAND
Department of Economics

3105 Tydings Hall
College Park, Maryland 20742-7211
301.405.3266 TEL 301.405.3542 FAX

March 27, 2020

Letter of Recommendation for Seula Kim:

I am happy to write a letter on behalf of Seula Kim who is a candidate for the Kauffman Bootcamp on Entrepreneurship. Seula is a third year student in our current program. I have had her as a student in my graduate classes and she did extremely well. She also has an outstanding record in the other classes he has taken. I am also her advisor for her doctoral thesis so I am learning about the interesting research she has underway. She has also worked for me as a teaching assistant in the first year graduate macro sequence.

In my observation on all of these activities, I think it is clear that Seula is an outstanding student who has great potential as a professional economist. She is very bright, full of ideas, has great intellectual curiosity, is a very hard worker, and is very much a self-starter. I think she has the potential to conduct high quality dissertation research and attending this bootcamp would help greatly in making this happen.

Seula's dissertation interest is on understanding the impact of being an employee of working at a startup. On the one hand, there is the potential of the firm being a fast growing firm that is pushing out the frontier of innovation. On the other hand, most startups fail in their first five years so there is a likely prospect of looking for alternative employment. These issues will also impact the entrepreneurial business in attracting and retaining high quality workers. She has creative ideas about the implications for the wages and other benefits that entrepreneurs are likely to have to provide to attract and retain workers.

In short, Seula is an outstanding third year student that one can already see has a great potential as an economist. She is a superb candidate for the Kauffman Bootcamp. She would benefit tremendously from the opportunity to learn from the teachers at the Bootcamp along and her fellow students. I urge you to support her application.

Sincerely,

John C. Haltiwanger

John C Haltiwanger
Distinguished University Professor