PRINCETON UNIVERSITY

Seula Kim
Email: sk6285@princeton.edu
Web: www.seulakim.com
Phone: (301) 646-4765

February 24, 2024

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

To whom it may concern:

I am a Postdoctoral Research Associate at the Louis A. Simpson Center for the Study of Macroeconomics and the Department of Economics at Princeton University. I completed my Ph.D. in Economics from the University of Maryland in May 2023 and will be joining Penn State University as an Assistant Professor of Economics in the fall of 2024. Enclosed for your consideration are my application materials for this program, including my curriculum vitae, application essay, and a reference letter from Professor Michael Ewens.

My primary research interests span firm dynamics, labor, and macroeconomics. My work focuses on studying the determinants of pay and growth dynamics of young firms and their implications for the aggregate economy. I use micro-level datasets to establish stylized facts and employ macro models to identify the underlying mechanism as well as to quantify its aggregate implications.

One of my working papers investigates how workers' uncertain prospects about young firms impact the pay and growth of young firms and the aggregate implications of this channel on productivity and business dynamism. I propose that workers need to learn about firms to take a job, and this can create wage differentials for young firms relative to otherwise similar mature firms given their inherent nascency. Building a quantitative directed search model with Bayesian learning about firm productivity types, I find that i) younger firms with good (bad) cumulative average performance need to pay higher (lower) wages than their mature counterparts as workers are less certain about younger firms' performance based on shorter track records; ii) higher uncertainty about young firms pronounces the wage differentials, and iii) hampers business dynamism and aggregate productivity. Using employee-employer matched data from the U.S. Census Bureau, I find empirical evidence confirming the model predictions.

Building on this study, I plan to explore the pay and labor market dynamics of executives along the firm life cycle. In particular, I would like to investigate how young firms hire executives, whether through internal promotions or external hires, and how compensation contract schemes depend on executives' beliefs or learning about the firms and impact firm performance along the life cycle. In addition, I aim to study how the quality of CEO-firm match evolves throughout the firm lifecycle and assess the significance of the initial match quality or CEO turnover in shaping firm growth trajectories.

Given my research interests and experience in this domain, I consider myself an ideal candidate for the NBER Workshop on Economics of Executive Compensation. This program offers a rich array of topics including the determinants of executive pay, executive labor market dynamics, and various forms of regulations or policies on pay. These topics align closely with my research agenda, and attending this program would be extremely beneficial for me to gain an invaluable and comprehensive understanding of the literature and insights for my future research. Furthermore, it would be a unique and thrilling opportunity for me to build professional relationships with top-notch researchers and future colleagues in this field.

Thank you so much for your kind consideration of my application.

Sincerely,
Seula Kim

SEULA KIM (C.V.)

Mailing Address:
Room 195, Julis Romo Rabinowitz Building,
Princeton, NJ 08544

Phone: +1 (301) 646-4765
Email: sk6285@princeton.edu
Web: www.seulakim.com

ACADEMIC POSITIONS (including scheduled appointments)

Postdoctoral Research Associate, Princeton University 2023-2024
Louis A. Simpson Center for the Study of Macroeconomics, Department of Economics
Assistant Professor of Economics, Pennsylvania State University 2024 -

EDUCATION

Ph.D., Economics, University of Maryland 2023
M.A., Economics, University of Maryland 2019
M.A., Economics, Seoul National University, South Korea 2017
B.A., Economics, *Summa Cum Laude*, Seoul National University, South Korea 2015

FIELDS OF SPECIALIZATION

Macroeconomics, Firm Dynamics, Innovation, and Labor Economics

WORKING PAPERS

"Workers' Job Prospects and Young Firm Dynamics"

"Competition, Firm Innovation, and Growth under Imperfect Technology Spillovers," *SSRN Working Paper* No. 3850146, with Karam Jo

"Mega Firms and Recent Trends in the U.S. Innovation: Empirical Evidence from the U.S. Patent Data," *NBER Working Paper* No. 31460, with Serguey Braguinsky, Joonkyu Choi, Yuheng Ding, and Karam Jo

"Product Switching and Young Firm Dynamics," with Karam Jo

"Improving Patent Assignee-Firm Bridge with Web Search Results," *CES Working Paper* No. 22-31, with Yuheng Ding and Karam Jo

WORK IN PROGRESS

"Geospatial Heterogeneity in Inflation: A Market Concentration Story," with Michael A. Navarrete (Draft available on request)

"Measuring Real Sales and Inflation: Official Statistics vs Economics Transactions Data," with Gabriel Ehrlich, John Haltiwanger, David Johnson, Jake Kramer, Michael A. Navarrete, Edward Olivares, R. Benjamin Rodriguez, and Matthew Shapiro

"Heterogeneity in Wage and Firm Dynamics: The Role of Worker Job Prospects"

PUBLICATION

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

RESEARCH AND RELEVANT WORK EXPERIENCE

Special Sworn Status (SSS) Researcher, U.S. Census Bureau	2020 -
PhD Fellow, Workshop on Entrepreneurial Finance and Innovation (WEFI)	2021 - 2023
Research Assistant, Prof. John Haltiwanger, University of Maryland	2020 - 2023
Dissertation Fellow, Federal Reserve Bank of Chicago	2022
Entrepreneurship Research Boot Camp, NBER	2020
PhD Intern, Fund Internship Program, International Monetary Fund	2020
Research Associate, The Bank of Korea Economic Research Institute	2017
Research Assistant, Prof. Jae Won Lee, Seoul National University	2016

TEACHING EXPERIENCE

University of Maryland

Instructor, Principles of Macroeconomics (undergrad)	Summer 2019 – 2020, Winter 2020
Teaching Assistant, Macroeconomic Analysis II (PhD core)	Spring 2019 - 2020
Teaching Assistant, Macroeconomic Analysis I (PhD core)	Fall 2018 - 2019
Teaching Assistant, Money and Banking (undergrad)	Spring 2018
Teaching Assistant, Intermediate Macroeconomics (undergrad)	Fall 2017

GRANTS AND AWARDS

Doctoral Research Grant, Washington Center for Equitable Growth	2023 - 2024
Best Job Market Paper Award, Korea-America Economic Association	2022
Best Paper Award in Entrepreneurial Cognition, Finalist, Academy of Management and Ewing Marion Kauffman Foundation	2022
American Economic Association Summer Dissertation Fellowship	2022
BSOS Dean's Research Initiative Doctoral Dissertation Award, University of Maryland	2022
Jacob K. Goldhaber Travel Grant, University of Maryland	2022
The Royal Economic Society Conference Award	2021
International Conference Student Support Award, University of Maryland	2021
Alfred P. Sloan Foundation Research Assistance Funds	2020 - 2023
The Hayak Fund for Scholars, Institute for Human Studies	2020
BSOS Dean's Research Initiative Travel Grant, University of Maryland	2020
Graduate Assistantship, Department of Economics, University of Maryland	2017 - 2023
National Research Fellowship for Humanities, Korea Student Aid Foundation	2016
Graduate Assistantship, Department of Economics, Seoul National University	2015 - 2016

Brain Korea 21+ Scholarship, Seoul National University	2015 - 2016
Merit-based Scholarship, Seoul National University	2012 - 2014
Superior Academic Performance Scholarship, Seoul National University	2010

CONFERENCE AND SEMINAR PRESENTATIONS

([*]scheduled; [†]co-author presented; [§]virtual; [‡]canceled due to travel restrictions)

2024: ASSA 2024 Annual Meeting (San Antonio), ASSA 2024 Poster Session (San Antonio), STEG-CEPR Annual Conference 2024 (NYU Abu Dhabi), The BdE-BOC-ECB-FED Conference on Diversity, Equity, and Inclusion in Economics, Finance, and Central Banking (Bank of Spain)[*], CEMFI[*], Princeton University[*], Clemson University[*], Northeast Labor Symposium for Early Career Economists (Princeton)[*], DC Search and Matching Conference (Federal Reserve Board)[*], Rutgers University[*], Technology and Policy Research Initiative (TPRI) Seminar[*§], NBER Productivity, Innovation, and Entrepreneurship Program Meeting Spring 2024 (Boston)[*]

2023: University of Michigan, Federal Reserve Bank of St. Louis, Penn State University, University of Illinois Urbana-Champaign, SUNY at Buffalo, Federal Reserve Board, Federal Reserve Bank of Kansas City, City University of Hong Kong[§], Korea Development Institute[§], OECD[§], Hong Kong University[‡], EEA Annual Conference (New York)[‡], IMF[§], Technology and Policy Research Initiative (TPRI) Seminar[§†], MEA Annual Meeting (Ohio)[‡], WEAI International Conference[§], RES-SES Annual Conference (Glasgow)[‡], SOLE (Philadelphia)[*], Midwest Macro Spring 2023 Meeting (Clemson), NBER Megafirms and the Economy Spring 2023 Meeting[†], Society for Economic Dynamics 2023 (Cartagena), KER-KAEA International Conference (Yeosu), Yonsei University, Asian Meeting of the Econometric Society (Singapore)[‡], AIEA-NBER Conference (Taipei), EEA-ESEM (Barcelona)[‡], 2023 FSRDC Annual Research Conference (Federal Reserve Board), University of Toronto, Workshop on Entrepreneurial Finance and Innovation[§†], 2023 FCSM Research and Policy Conference (College Park)[†], Princeton University, Midwest Macro Fall 2023 Meeting (Texas Tech), CEPR Macroeconomic and Growth Annual Meeting (Madrid), SEA Annual Meeting (New Orleans), NBER Innovation Information Initiative Technical Working Group Meeting (Boston)

2022: MEA Annual Meeting (Minneapolis), U.S. Census Bureau CES Seminar[†§], North American Summer Meeting of the Econometric Society (Miami), Federal Reserve Bank of Chicago, Asian Meeting of the Econometric Society[§], RES Symposium of Junior Researchers 2022[§], WEAI Annual Conference[§], Australasian Meeting of the Econometric Society[§], AOM Annual Meeting (Seattle, invited as the Best Paper Award Finalist), Young Economist Symposium 2022 (Yale), U.S. Census Bureau CES Seminar[§], 2022 FSRDC Annual Research Conference (Kansas City Fed)[§], Korean Econometric Society 2022 Fall Conference (SNU)[†], Economics Graduate Student Conference 2022 (WUSTL), KAEA Job Market Conference[§], Midwest Macro Fall 2022 Meeting (SMU), SEA Annual Meeting (Fort Lauderdale), Minneapolis Fed Junior Scholar Conference, Korea International Economic Association 2022 Winter Conference (SNU)[†]

2021: WEAI Virtual International Conference[†§], RES 2021 Annual Meeting[§], WEAI Annual Conference[§], Economics Graduate Student Conference 2021 (WUSTL), Sejong University[†], European Winter Meeting of the Econometric Society[§]

CONFERENCE DISCUSSION

"When do Firms Profit from Wage Setting Power?" by Justin Bloesch and Birthe Larsen, Northeast Labor Symposium for Early Career Economists (Princeton, scheduled), April 2024

"The Effect of Minority Bank Ownership on Minority" by Agustin Hurtado and Jung Sakong, The BdE-BOC-ECB-FED Conference on Diversity, Equity, and Inclusion in Economics, Finance, and Central Banking (Bank of Spain, scheduled), March 2024

"Productivity Slowdown and Firm Exit: The Ins and Outs of Banking Crises" by Andrea Rotarescu, ASSA Annual Meeting (San Antonio), January 2024

"Bank Concentration, Product Market Competition, and Productivity Growth" by Lei Ye, MEA Annual Meeting (Minneapolis), March 2022

"Specialization in a Knowledge Economy" by Yueyuan Ma, WEAI Annual Conference (virtual), June 2021

REFEREE SERVICES

Journals: *Journal of Economic Dynamics and Control*, *Research Policy*, *Review of Economic Dynamics*

Grants: STEG Small Research Grants and PhD Research Grants

OTHER PROFESSIONAL SERVICES

Co-organizer of the Student-led Workshop on Entrepreneurial Finance and Innovation (SEFI), 2021 - 2023

COMPUTATION SKILLS

Eviews, Fortran, MATLAB, SAS, Stata, R

LANGUAGES

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

LIST OF PH.D. COURSES (at the University of Maryland)

Fall 2017	Macroeconomic Analysis I (ECON601) Microeconomic Analysis I (ECON603) Econometrics I (ECON623) Pre-candidacy Research (ECON898)
Spring 2018	Macroeconomic Analysis II (ECON602) Microeconomic Analysis II (ECON604) Econometrics II (ECON624) Pre-candidacy Research (ECON898)
Fall 2018	Computational Methods in Macroeconomics (ECON630) Advanced Macroeconomics I (ECON701) Advanced International Economics I (ECON741) Pre-candidacy Research (ECON898)
Spring 2019	Advanced Macroeconomics II (ECON702) Advanced International Economics II (ECON742) Advanced Topics in International Trade (ECON745) Pre-candidacy Research (ECON898)
Fall 2019	The Macroeconomics of Imperfect Capital Markets (ECON747)[1] Doctoral Dissertation Research (ECON899)
Spring 2020	Workshop on Macroeconomics, International Macroeconomics and International Finance (ECON808) Advanced Topics in Applied and Theoretical Macroeconomics (ECON709)[2] Doctoral Dissertation Research (ECON899)
Summer 2020	Doctoral Dissertation Research (ECON899)
Fall 2020	Doctoral Dissertation Research (ECON899)
Spring 2021	Doctoral Dissertation Research (ECON899)
Fall 2021	Doctoral Dissertation Research (ECON899)
Spring 2022	Doctoral Dissertation Research (ECON899)
Fall 2022	Doctoral Dissertation Research (ECON899)
Spring 2023	Doctoral Dissertation Research (ECON899)

[1] Audit
[2] Workshop

Essay for the NBER Workshop on Economics of Executive Compensation 2024

Seula Kim
(Princeton University)

Young firms play a significant role in driving job creation and productivity growth in the U.S. (Decker et al. 2014; Haltiwanger 2012; Haltiwanger et al. 2016). However, real-world entrepreneurial experiences around me revealed significant challenges in attracting and retaining the right set of managers or workers during the initial stages. For instance, my uncle who launched a high-tech startup encountered difficulties in hiring the necessary talent and efficiently executing his ideas. Similarly, my college friend who established a computer software startup had to close the business due to persistent challenges in assembling a qualified founding team. From these experiences, I learned that entrepreneurship and firm growth can be hindered by barriers to talent acquisition, which may stem from search and matching frictions, lacking information about firms, or pay differentials. This motivates my studies to explore the following questions: how do job prospects about firms matter for the pay and growth of young firms? how do executive compensation and CEO-firm matches in the early stages of firms impact firm performance and growth?

In my paper, titled *"Workers' Job Prospects and Young Firm Dynamics,"* I investigate how worker beliefs and job prospects impact the wages and growth of young firms and quantify their aggregate implications. Building a heterogeneous firm directed search model in which workers gradually learn about permanent firm types and firms post a set of dynamic contracts, I find that the learning process creates endogenous wage differentials for young firms. In the model, a high-performing young firm must pay a higher wage than that of equally high-performing old firms, while a low-performing young firm offers a lower wage than that of equally low-performing old firms. This is because workers are unsure whether the young firm's performance reflects its fundamental type or a temporary shock due to the lack of historical records. Furthermore, higher uncertainty about young firms leads to bigger wage differentials and thus hampers the overall startup rate, young firm activity, and aggregate productivity. Using employee-employer linked data from the U.S. Census Bureau, I find consistent regression results.

Based on my current work, I aim to extend my analysis to understand CEO and executive hiring processes, contract schemes, and their impact on firm performance. Specifically, I want to investigate how young firms hire managers, whether by promoting internal workers or hiring outsiders, and how executives' internal information and beliefs about firms influence the design of contract schemes and firm performance throughout their life cycle. Furthermore, I would like to examine how firms are matched with the right skills of executives and grow over time. The specific skill sets demanded by firms may vary depending on economic environments, requiring CEOs with either general or specialized expertise, and affect the matching process differently. For instance, the duration for which CEOs adjust their behavior to the firm's needs and achieve optimal match quality can vary depending on the specificity of their skill sets. This along with labor market conditions can affect firms' strategic choices regarding whether to bear with this adjustment period or opt for CEO turnover in search of an optimal match. Therefore, the quality of the initial CEO-firm match may hold greater importance for firm growth than experiencing CEO turnover, or vice versa, depending on the types of CEOs required. Understanding these dynamics can provide valuable insights into potential factors affecting the matching efficiency and growth trajectories of young firms.

I am applying for the NBER Workshop on Economics of Executive Compensation to enrich my understanding of frontier research and advance my research in the field of executive contracts and dynamics. My focus was primarily on studying the theory of labor search and contract in my Ph.D., however, I was not much exposed to studies on executive compensation and their labor market dynamics. I believe it will be a valuable experience for me to learn various aspects of the economics of executive compensation and exchange ideas with prominent researchers and colleagues having diverse expertise in this field.

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.

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.

Kim, Seula, "Workers' Job Prospects and Young Firm Dynamics," Working Paper, 2023.

Columbia Business School

Michael Ewens
David L. and Elsie M. Dodd Professor of Finance
619-512-3820
Michael.ewens@columbia.edu

To Whom It May Concern,

I wholeheartedly recommend Seula Kim for the NBER Workshop on Economics of Executive Compensation. As a post-doctoral researcher at Princeton, soon transitioning to a faculty position at Penn State's economics department in Fall 2024, Seula has demonstrated exceptional prowess in theoretical and empirical economic research. I have had the privilege of knowing Seula through the WEFI Fellows mentor program,[1] where she was an inaugural member. Over the two years of her participation, her development as a scholar and her ability to engage constructively with her peers have been impressive.

Seula's intellectual curiosity and adaptability set her apart. Her job market paper and subsequent research showcase a unique blend of theoretical insight and empirical rigor, underscoring her potential to contribute across fields in economics. Specifically, I have been impressed by Seula's discipline approaching new projects to answer big questions spanning multiple fields (rather than let a new dataset or natural experiment guide her work). Seula's enthusiasm for integrating questions of executive compensation into broader economic discussions—spanning firm dynamics, labor markets, and macroeconomics—is exciting.

Seula's participation in the WEFI Fellows program has demonstrated her ability to thrive in environments that demand active engagement, idea sharing, and constructive feedback among peers. These qualities are essential for the collaborative and interactive nature of the workshop. Based on my observations, Seula will benefit from this workshop and contribute meaningfully to the discussions and collaborations it fosters.

I strongly endorse her application and am excited to see her contributions to the field after learning more about executive compensation.

Sincerely,

Mike Ewens

[1] https://workshop-efi.com/wefi-fellows/

Henry R. Kravis Hall, 732
665 West 130th Street
New York, NY 10027