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March 30, 2015

Letter of Recommendation for **Joonkyu Choi**:

I am happy to write a letter on behalf of Joonkyu Choi who is a candidate for the Kauffman Bootcamp on Entrepreneurship. Joonkyu is a third year student in our current program. I have had him as a student in my graduate classes and he did extremely well. He also has an outstanding record in the other classes he has taken. I am also his advisor for his doctoral thesis so I am learning about the interesting research he has underway. Given his interests in entrepreneurship, I am working on getting him access to the Census firm level data that I have been working on studying entrepreneurship.

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

Joonkyu's dissertation interest is on understanding the heterogeneity in entrepreneurship outcomes. One of the primary findings highlighted in the recent literature is that most young firms either fail or don't grow while a small fraction of young firms grow very fast. We are trying to understand this heterogeneity with hypotheses ranging from ex ante heterogeneity in types (as in the recent work by Antoinette Schoar and Erik Hurst) to the inevitable heterogeneity that results from the type of selection and learning dynamics of canonical models (e.g., models by Jovanovic). Joonkyu has a novel approach to these issues. He hypothesizes that how much risk an entrepreneur is willing to take depends on their outside alternatives. He argues that high ability individuals who could do very well as a wage and salary worker are more likely to engage in risky entrepreneurial projects since if the project fails such individuals can readily obtain a high quality wage and salary job. He is developing a theoretical framework for these hypotheses and plans to test these hypotheses by combining data from the Longitudinal Business Database (LBD), the Integrated Longitudinal Database (ILBD) with data on characteristics of entrepreneurs (sources will include ACS, SBO, and LEHD).

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

Sincerely,

John C. Haltiwanger
Distinguished University Professor

Joonkyu Choi

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Tel: (240) 645-7838 | Email: choij@econ.umd.edu

March 25, 2015

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

To Whom It May Concern,

I am writing to express my interest in the NBER Entrepreneurship Research Boot Camp 2015. I am currently a third year Ph.D. student in Economics at the University of Maryland at College Park. Please accept this letter and accompanying curriculum vitae and essay, along with a recommendation letter from Professor John Haltiwanger as my application. Given my passion for entrepreneurship research and analytical skills I have acquired throughout my Ph.D. education, I believe that I would be a well-suited candidate for this program.

My primary research interest lies in the field of Entrepreneurship and Firm Dynamics. My intellectual curiosity about entrepreneurship research started with my experience as an entrepreneur. During college, I led a group of five students and launched an online magazine business. Despite the business lasting only a year, this valuable experience allowed me to grow a strong interest in understanding the factors that determine the success and failure of a business. Currently, my research is focused on investigating the risk-taking behaviors of startup business owners and its effect on the growth of their businesses. The goal of the research lies in understanding the determinants of the growth patterns of young businesses in the United States. This is the first step to fulfilling my research agenda of exploring the determinants of business dynamism in an economy and understanding life cycle dynamics of surviving firms across countries.

The quantitative and analytical skills I have honed throughout my Ph.D. education will provide a strong foundation as I pursue my research in entrepreneurship. The course in computation methods in macroeconomics enabled me to acquire various computation skills such as solving dynamic occupation choice problems or models of heterogeneous firms. In addition, my experience as a research assistant for Professor Luminita Stevens was an excellent opportunity to familiarize myself not only with program languages such as Matlab and Stata, but also with developing propositions and proofs in a theoretical paper.

I am specifically interested in the NBER Entrepreneurship Research Boot Camp 2015, as it provides a unique opportunity to acquire a deeper understanding about the literature on entrepreneurship and entrepreneurial finance, and it allows me to build a professional network with future colleagues in the field. I look forward to hearing from you about the opportunity to participate in this program.

Thank you very much for your time and consideration.

Sincerely,
Joonkyu Choi

March 2015

JOONKYU CHOI
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EDUCATION

Ph.D. Economics, University of Maryland at College Park, August 2013 - Present
B.A. Economics, Yonsei University, Seoul, South Korea, February 2011

FIELDS OF INTEREST

Primary: Macroeconomics, Entrepreneurship and Firm Dynamics
Secondary: International Finance

WORK IN PROGRESS

"Endogenous Risk Taking and Young Business Dynamics"

TEACHING EXPERIENCE

Instructor, Financial Markets and the Macroeconomy, University of Maryland, Fall 2014, Spring 2015
Instructor, Money and Banking, University of Maryland, Summer 2014
Teaching Assistant, Principles of Microeconomics, University of Maryland, Fall 2013
Teaching Assistant, Topics in Industrial Organization, Yonsei University, Spring 2011, Fall 2011
Teaching Assistant, Game Theory, Yonsei University, Fall 2009, Spring 2010, Fall 2010

RESEARCH EXPERIENCE

Research Assistant, Prof. Luminita Stevens, University of Maryland, Spring 2014

GRANTS AND AWARDS

Graduate Assistantship, University of Maryland, 2013 – present
Brain Korea 21 Scholarship, Ministry of Education and Science Technology, 2011
University Scholarship, Yonsei University, Spring 2010

COMPUTATION SKILLS

Extensive experience with Matlab and Stata

LANGUAGES

Korean (native), English (fluent)

Ph.D. COURSE LIST

Fall 2012	Macroeconomic Analysis I
	Microeconomic Analysis I
	Econometrics I
Spring 2013	Macroeconomic Analysis II
	Microeconomic Analysis II
	Econometrics II
Fall 2013	Computational Methods in Macroeconomics
	Advanced Macroeconomics I
	Advanced International Economics I
Spring 2014	Advanced Macroeconomics II
	Topics and International Finance
	Business Cycle Theory for Emerging Economies
Fall 2014	Advanced Topics in Applied and Theoretical Macroeconomics (Workshop)
	Workshop on Macroeconomics and Growth
Spring 2015	Advanced Topics in Applied and Theoretical Macroeconomics (Workshop)
	Workshop on Macroeconomics and Growth

My Passion for Entrepreneurship Research and the NBER Entrepreneurship Research Boot Camp 2015

Joonkyu Choi[†]

My passion for entrepreneurship research began with a very simple but important question: what makes a business survive and be successful? The first time I raised this question was when I launched my own startup business in college.

Before I started pursuing my career as an economist, I wanted to become an entrepreneur. Part of the motivation was to earn a great deal of money. But more importantly, what I truly wanted to do was to improve people's lives by producing and materializing new ideas. In the winter of my freshman year, I built an online magazine startup with five team members, with the support of a professor in communication studies. The main objective of the business was to (1) come up with original questions that can be raised in our daily lives, (2) collect the data that would answer the question and (3) write an article based on the data collected. For an example, in one of the articles, we asked "how much do beggars near the Seoul metro station make each day?" We would spend hours at the metro station, watching as the pedestrians gave out money to the homeless. Nevertheless, after a year, due to the lower than expected subscription rate and the high cost of producing the articles, we had to close the business.

From this valuable experience, I was able to learn two important lessons. First, an entrepreneur should have a clear understanding of the market demand. In other words, the entrepreneur should focus on creating products that are demanded by consumers. Second, it is important to build cooperative relationships with other businesses in the industry. By working with others, a business can reduce production costs through specialization and trade, and enhance the quality of the product.

My interest in entrepreneurship research was reinvigorated when I attended Professor Haltiwanger's macroeconomics lectures. One of the most intriguing topics was the secular and cyclical trend of job flows in the United States. In particular, it was the secular decline in business dynamism in the U.S. that mainly triggered my curiosity. If the vibrant business expansion/contraction and the corresponding creative destruction process was an important source of U.S. economic success in the past, this declining trend might be a warning signal for the future of this country. Investigating the causes and consequences of this phenomenon seemed to be an urgent research agenda. However, there appeared to be a large number of unresolved questions. Is the secular decline in business dynamism in the U.S. due to a set of regulatory changes that made it harder for people to establish and grow businesses? Are entrepreneurs conducting less product experiments and not taking risks? Is the aging population relevant? If so, how exactly? With all these open questions, I decided to delve into entrepreneurship research with the same excitement I had when I first launched my own startup business. But this time, I would keep the two lessons in mind: have a clear understanding of the market demand and build cooperative relationships with other participants in the industry.

These consecutive events has led to my third year paper "Endogenous Risk Taking and Young Business Dynamics" where I attempt to identify the types of entrepreneurs that are likely to take large risks and thus create high growth firms in case of success. This research is motivated by the fact that while startups and young businesses are important sources of job creation, most of them either fail or do not grow; it is a small

[†] Department of Economics, University of Maryland at College Park.

fraction of high growth firms that contribute substantially to job creation (Haltiwanger et al(2015)). Therefore, understanding the determinants of high growth young firms is the first step to identifying the source of job creation potentials of young businesses in the U.S. The main hypothesis of the paper is that businesses created by entrepreneurs who can expect higher levels of income in case of business failure, can afford to operate riskier business projects, as they are less afraid of the downside. In other words, better outside options of entrepreneurs enables them to sustain a relatively stable level of consumption, and using this as leverage, they can take on larger risks in their business projects. In order to formalize this hypothesis, I construct a model of entrepreneurship with dynamic occupation choice based on Vereshchagina and Hopenhayn (2009), where entrepreneurs can select the risk level of their business projects. Currently I am in the stage of solving the model and calibrating it to the U.S data. In the near future, using a business-entrepreneur matched data, I plan to test the two main implications of the paper: entrepreneurs with higher outside options are more likely to create high growth firms and this is largely due to the entrepreneurs' risk taking behavior.

Based on the current work, I plan to answer the following questions in my future research. First, what are the changes in number and type seen in startup business owners in the U.S. in the last three decades? In particular, I would like to investigate the change in the business startup rates of individuals with greater potentials of creating high growth firms. This will help us understand the reason behind the decline in business dynamism in the U.S. Second, what determines the life cycle dynamics of surviving businesses across countries? In particular, why do production plants exhibit slower growth in developing countries, as documented in Hsieh and Klenow (2014)? While aggregate factors such as financial market development may play an important role, I would like to examine whether entrepreneurs in developing countries take smaller risks and thus make their business grow slower, due to their lesser outside options.

I am applying for the NBER Entrepreneurship Research Summer Boot Camp 2015, as it enables me to put the two lessons that I have learned in my startup experience into practice. The program will allow me to acquire a better understanding of the research questions that are of interest in the field. Moreover, it provides a unique opportunity to build professional relationships with bright young researchers of entrepreneurship and entrepreneurial finance. It will be an exciting experience to share and discuss ideas with future colleagues in the field.

References

Haltiwanger, J., Jarmin, R., Kulick, R., & Miranda, J. (2015). High Growth Young Firms: Contribution to Job Growth, Revenue Growth and Productivity. *NBER Chapters*.

Hsieh, C. T., & Klenow, P. J. (2014). The Life Cycle of Plants in India and Mexico. *The Quarterly Journal of Economics*, *129*(3), 1035-1084.

Vereshchagina, G., & Hopenhayn, H. A. (2009). Risk taking by entrepreneurs. *The American Economic Review*, 1808-1830.