Stephanie A. Heger
Department of Economics
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Washington University in Saint Louis
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April 2, 2012

NBER Conference Department
1050 Massachusetts Avenue
Cambridge, MA 02138-5398

Dear NBER Conference Department:

I would like to be considered for the 2012 NBER Entrepreneurship Research Boot Camp. I am currently a third year Ph.D. student in the Department of Economics at Washington University in Saint Louis. My research takes an experimental approach to the determinants of entrepreneurship.

My advisor, Barton Hamilton, will be writing my letter of recommendation.

My contact information is above. Please do not hesitate to contact me if you have any questions regarding my application.

Sincerely,



Stephanie Heger

encl: Curriculum Vitae
List of Ph.D. Courses
Essay

Washington University in St. Louis
Barton Hamilton
Robert Brookings Smith Distinguished Professor of Entrepreneurship

March 31, 2012

Letter of Recommendation for **Stephanie Heger**

It is a pleasure to recommend Stephanie Heger for the NBER Entrepreneurship Boot Camp. I am Stephanie's thesis advisor (along with David Levine in the economics department here at Washington University) and have been interacting with her regularly for the last 2 years on her research. Stephanie has also worked as one of my research assistants over the last year on an empirical project examining the relationship between household structure and the decision to start a business. Stephanie is a bright, hardworking PhD student who is extremely well trained in structural microeconometric methods. More importantly, Stephanie has spent the last few months working with David Levine to develop the skills to conduct laboratory experiments. I am very excited about this development in Stephanie's skill set, since I believe there are a number of interesting opportunities of experimental research in the economics of entrepreneurship. Thus far, however, few scholars in entrepreneurship have conducted such experiments and so Stephanie's work has the potential to make a major impact in the field. The Boot Camp will provide needed institutional context for Stephanie's research, as well as expose her to a wider variety of entrepreneurial scholars and ideas that will be fruitful for her experimental research.

Stephanie's research ideas started with the long-standing question of why so many individuals enter self-employment when the subsequent failure rate is so high. Certainly, the prospective entrepreneur's beliefs are critical, and an obvious explanation is that potential entrepreneurs tend to be more optimistic about the quality of their business ideas. However, optimism may be only part of the story: once the individual enters self-employment, how does he/she react to news (ie, profit and or revenues) about the idea? This naturally leads to the question of over-confidence: How quickly does the entrepreneur update his/her initial beliefs, and how much weight is put in bad news about profits and revenues? Inferring optimism and over-confidence from survey data is quite challenging, so Stephanie's has proposed to study these issues in an experimental setting. An important piece of her work is precise definitions of optimism and over-confidence that will allow her to separately identify their impacts on an "entrepreneurial" task that will be specified in the experiment. Once this experiment is completed, she then plans additional experiments that will disentangle the relationship between optimism, over-confidence, and preference for autonomy that has been observed on the part of entrepreneurs.

Stephanie has a very exciting research agenda that uses experimental methods to study key questions in the entrepreneurship literature. Few economists are conducting studies of this sort in the entrepreneurship literature, and the NBER Entrepreneurship Boot Camp will be highly beneficial to Stephanie at this stage of her dissertation. Her research has the potential to be highly impactful, and I very strongly recommend Stephanie for the Boot Camp. Please do not hesitate to e-mail me at hamiltonb@wustl.edu or call me at (314) 935-8057 if you have any further questions about this excellent candidate.

Sincerely,

Barton Hamilton
Robert Brookings Smith Distinguished Professor of Entrepreneurship

John M. Olin School of Business, Washington University in St. Louis, Campus Box 1133, One Brookings Drive, St. Louis, Missouri 63130-4899; (314) 935-8057; *Fax*: (314) 935-6359; HamiltonB@wustl.edu

Stephanie A. Heger
Curriculum Vitae
Updated April 2, 2012

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Citizenship: U.S.A.

EDUCATION

Third Year Ph.D. in Economics, Washington University in St. Louis, St. Louis, MO (expected) 2014
M.A. in Economics, Washington University in St. Louis, St. Louis, Mo 2011
B.A. in Economics & Political Science, Indiana University, Bloomington, Indiana 2005

FIELDS OF SPECIALIZATION

Primary: Experimental Economics, Economics of Entrepreneurship
Secondary: Development, Behavioral Economics

RESEARCH

IN PROGRESS:

"Optimism, Overconfidence & Self-Employment: An Experimental Approach" (with Nick W. Papageorge)

"The Silver-Lining: Entrepreneurship During Recessions"

"Marriage and Entrepreneurship"

ACADEMIC APPOINTMENTS

Research Assistant
David Levine (as lab manager of MISSEL Experimental Laboratory) 2011-2012
Teaching Assistant
Behavioral and Experimental Economics (Undergraduate) Spring 2012
Microeconomic Theory (Undergraduate) Fall 2012
Advanced Econometrics (Ph.D. Core) Spring 2011
Intermediate Macroeconomic Theory (Undergraduate) Fall 2010

AWARDS

The University Fellowship, Washington University in St. Louis 2009-2010
Distinction (BA), Indiana University, Bloomington, Indiana 2005

REFERENCES

Barton Hamilton
Olin Business School
Washington University in St. Louis
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David Levine
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(314) 935-9529

PH.D. COURSE WORK

Core:	
Microeconomic Theory	2 semesters
Macroeconomic Theory	2 semesters
Econometrics	2 semesters
Fields & Electives:	
Behavioral Economics	
Structural Econometrics	
Advanced Quantitative Methods	
Contract Theory	
Industrial Organization	
Seminars & Reading Course:	
Reading Course with Barton Hamilton	
Reading Course with Sebastian Galiani	
Seminar on Work, Family and Public Policy	
Seminar on Development and Public Policy	

Essay

My current research is motivated by the finding that most entrepreneurial endeavors do not succeed and roughly 80% of individuals who choose self-employment would have earned more had they remained in traditional employment.[1] This puzzle motivates my main research question, "Why do individuals become self-employed?" To improve my approach to this question, I hope to attend the NBER Entrepreneurship Boot Camp, which I see as an opportunity to sharpen my understanding of entrepreneurship and collaborate with other researchers in the field. Since I take an experimental approach in researching entrepreneurship, I believe I can contribute to the intellectual diversity of the Boot Camp.

My research agenda takes an experimental approach to investigating three potential explanations, which have emerged in previous research. The first - and the main focus of my research to this point - centers around agent beliefs regarding their prospects for success in self-employment. The second suggests that agents facing poor labor market prospects (e.g.: agents who have been laid-off during a recession) start their own business since they foresee few alternatives to generate income.[2] The third focuses on individual preferences over autonomy. I use experiments because current observational data does not permit identification of how these factors separately contribute to the decision and control of confounding factors is essential to properly identify individuals' beliefs and preferences.

My most developed paper focuses on errors in agent's beliefs that are defined as optimism and/or overconfidence.[3] We study this type of error because it may explain the individual's decision to engage in entrepreneurial activity despite the high likelihood for failure. We propose a simple model and an experiment through which we propose a clear set of definitions of optimism and overconfidence. This project makes three key contributions. First, we propose precise definitions of overconfidence and optimism that are general and not context-dependent. Second, our experimental approach omits performance and focuses on beliefs regarding objective distributions. This is important because it allows us to control for potential confounding explanations for the incorrect beliefs. Eliciting beliefs about a performance-based task does not allow for the distinction between incorrect beliefs that stem from an overestimation of ability with regards to the task or an overestimation of ability to correctly forecast. Moreover, individuals are more likely to have prior beliefs regarding performance-based tasks that will influence their estimation in an experiment. Third, to our knowledge, we propose one of the only applications of an incentive compatible elicitation of subjective probabilities without making any assumptions about risk-preferences in the overconfidence and optimism literature (the randomized quadratic scoring rule developed by Schlag & van der Weele (2009); henceforth: rQSR). Additionally, we develop an extension of the rQSR that induces preferences over an otherwise objective random variable. This method allows us to control subject's preferences and elicit beliefs. We call this the modified randomized quadratic scoring rule (henceforth: MrQSR). Currently, we are awaiting IRB approval in order to run the experiment.

The second explanation is that individuals may have preferences for autonomy and the

[1] See Hamilton (2000) for this result.

[2] This possibility is often considered a "silver-lining" of recessions since it may imply lucrative innovation and future economic growth.

[3] This is joint work with Nick Papageorge.

additional utility they receive *purely* from autonomous self-employment compensates for the loss of income. Similar to defining optimism and overconfidence, detecting preferences for autonomy requires a great degree of control over the task, which makes this question well-suited to an experimental approach. It is necessary to control for confounding factors such as degree of "ownership" over specific tasks, and prior beliefs regarding ability and confidence in a specific task. For example, there is a difference between preferring to do a task without supervision because I think I am better at it than my supervisor and preferring to do a task without supervision because the I experience the supervision as a utility cost. If the latter is the case, then the preference for autonomy will persist regardless of the task. That is, a task will be more enjoyable for the individual if there is no supervision than if there is supervision, irrespective of the task.

The third explanation of why individuals choose to become entrepreneurs may be that during a recession individuals who otherwise would have remained in traditional employment move into self-employment. This move may be motivated by lay-offs, but it does not explain why these individuals are willing to incur the cost of self-employment and remain in self-employment given the finding in Hamilton (2000).

In undertaking the research agenda outlined above, I see the value of sharpening my institutional understanding of entrepreneurship. For example, the terms "entrepreneurship" and "self-employment" are often used interchangeably. One element of which I hope to gain a clearer understanding of from the Boot Camp is what it means for an individual to move between entrepreneurial and managerial activities and how the "self-employed" individuals fit into this dichotomy.[4]

In conclusion, the opportunities to tighten my current approach to research in entrepreneurship and broaden my understanding of the role of the entrepreneur are my main motivations to attend the NBER Boot Camp.

References

W.J. Baumol. Entrepreneurship in economic theory. *The American Economic Review*, 58 (2):64–71, 1968.

B.H. Hamilton. Does entrepreneurship pay? an empirical analysis of the returns to self-employment. *Journal of Political Economy*, 108(3):604–631, 2000.

[4]Baumol (1968) speaks to this point.