Applicant: Hedieh Rashidi Ranjbar
Fourth-year PhD student in Finance
R5425, Ross School of Business,
University of Michigan
701 Tappan Street, Ann Arbor, MI
48109
Email: hrashidi@umich.edu
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Reference: Professor Nadya Malenko
Associate Professor of Finance
R5322, Ross School of Business,
University of Michigan
701 Tappan Street, Ann Arbor, MI
48109
Email: nmalenko@umich.edu
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01/20/2022

Ms. Brett Maranjian
NBER
Cambridge
Massachusetts, USA
Subject: NBER Innovation Research Boot Camp 2022

Dear Ms. Maranjian,

I am writing to apply to the NBER Innovation Research Boot Camp 2022. I believe that this boot camp is a valuable opportunity for me to become familiar with leading research topics in the economics of innovation and to get feedback on my own research from experts in this field.

I have attached my CV, the list of PhD-level courses that I have taken, and an essay on why I am eager to attend this boot camp. My recommendation letter will be sent separately by Nadya Malenko, Associate Professor of Finance at the University of Michigan Ross School of Business. I hope that my background and personal interest qualify me for attending this boot camp.

Sincerely,

Hedieh Rashidi Ranjbar
Ph.D. Candidate, University of Michigan

Last updated: January 20, 2022

Hedieh Rashidi Ranjbar

Contact Information

University of Michigan
Ross School of Business
701 Tappan Ave,
Ann Arbor, MI 48109

Phone: (734) 757-0666
E-mail: hrashidi@umich.edu

Education

University of Michigan, Ann Arbor, MI, USA — 2018 – 2023 (expected)
Ph.D., Finance

University of Oklahoma, Norman, OK, USA — 2016-2018
First- and second-year Ph.D. courses in Finance

University of Milano-Bicocca, Milan, Italy — 2015-2016
First-year Ph.D. courses in Mathematical Finance

Amirkabir University of Technology, Tehran, Iran — 2009 – 2012
M.Sc., Financial Engineering

Alzahra University, Tehran, Iran — 2005 – 2009
B.Sc., Industrial Engineering

Research Interests

Entrepreneurial Finance, Innovation, and Corporate Finance

Honors, Awards, and Fellowships

- Ranked among the top 0.5% in the national entrance exam for Iranian universities, Iran, 2004
- Recognized as an Alzahra University selected (top) student in 2008
- Graduated among the top 10% of Industrial Engineering students at Alzahra University in 2009
- Qualified as an exceptional talent and awarded to enter the Master program in Industrial Engineering at Amirkabir University of Technology in 2009
- Ranked 3rd among 215 students in the Master program in Industrial Engineering and 1st among 12 students in the Financial Engineering specialization at Amirkabir University of Technology
- Doctoral Scholarship for the Ph.D. program in Mathematical Finance from the University of Milano-Bicocca, 2015-2018.
- Graduate Assistant Financial Award, University of Oklahoma, 2016-2021.
- Ben Barnett Memorial Scholarship, University of Oklahoma, 2016-2021.
- Finance Division Annual Scholarship, University of Oklahoma, 2016-2021.
- Robberson and Wethington Scholarship, University of Oklahoma, 2017.
- Doctoral Scholarship for the Ph.D. program in Finance from the University of Michigan, 2018-2023.
- NBER Entrepreneurship Research Boot Camp (selected participant), 2021.
- WEFI Fellows Program organized by Prof. Michael Ewens (selected participant), 2021-2022.

Teaching Experience

Teaching Assistant at the University of Oklahoma, Norman, OK

- Investments (Undergraduate course) with Prof. Tor-Erik Bakke, Spring 2017
- Derivatives (MBA course) with Prof. Pradeep Yadav, Spring 2017
- Fixed Income (MBA course) with Prof. Pradeep Yadav, Spring 2017
- Investments (Undergraduate course) with Prof. Pradeep Yadav, Fall 2017

Instructor at the University of Michigan, Ann Arbor, MI

- Financial Management (FIN 300), Undergraduate course Winter 2021
  (Remote due to Covid-19)

Research Experience

- Research Assistant to Toni M. Whited 2018-2019

Publications

- Hedieh Rashidi Ranjbar, Abbas Seifi, 2015, "A path-independent method for barrier option pricing in hidden Markov models", Physica A 440, 1-8.

Working Paper

- **Regulation A+ Crowdfunding**

Abstract: Using a hand-collected data set on the Regulation A+ filings, I provide detailed information on the age, size, number of employees, financial statement items, and industrial and geographical distributions of companies that use Regulation A+. Testing the effect of Regulation A+ on the local economy, I find a small negative correlation between the amount raised through this method of financing and ensuing unemployment rate. In addition, I investigate whether this new method of financing is substituting or complementing venture capital (VC) financing. The data analysis shows that Regulation A+ facilitates access to financing in regions and industries that could not attract VC-financing ex-ante. Finally, I test whether successful Regulation A+ offerings in a region can attract ensuing VC investments through decreasing uncertainty and search cost, and I find a positive and significant correlation between the two.

Work in Progress

- "Real Economic Outcomes of Equity Crowdfunding"

Workshops

- 2021-Present: WEFI fellows program (under the supervision of Prof. Michael Ewens)
- 2021: NBER Entrepreneurship Research Boot Camp
- 2021: The Brookings Center for Regulation and Markets Graduate Workshop 2: Using US Census Bureau data for research
- 2017: Mitsui Center Summer School on Structural Estimation in Corporate Finance (selected participant)
- 2016: University of Bologna Spring School in Finance
  - Counterparty Risk, Funding and Central Clearing
  - A Unified Approach to Funding Costs and Collateralization: risk-neutral pricing with multiple curves

Conferences and Seminars

Co-organizer

- Student-led workshop on Entrepreneurial Finance and Innovation (SEFI) 2021[1]

Technical Skills

Programming Languages: FORTRAN, Python
Statistical Softwares: Stata, SAS, R
Numerical Analysis Softwares: MatLab

Professional Experience

Iran Industries Investment Company, Tehran, Iran
Capital Market Analyst Dec 2011- Feb 2012, April 2012-June 2013, Jan 2014- May 2015

- Responsible for fundamental analysis of Iran Stock Exchange-listed companies

Iran Investment Company, Tehran, Iran
Project Expert Jun 2008 – Oct 2008

- Responsible for feasibility study of investment proposals using Comfar III Expert software
- Responsible for project control using MSP software

Reference

Nadya Malenko
Associate Professor of Finance
R5322, Ross School of Business, University of Michigan
701 Tappan Street, Ann Arbor, MI 48109
nmalenko@umich.edu

[1] https://www.workshop-efi.com/schedule/oct-11th-student-workshop

Completed PhD Courses

Courses taken at the University of Milano-Bicocca (GPA: 30/30):

- Optimization and Numerical Analysis
- Probability and Stochastic Processes
- Functional Analysis
- Statistical Inference I, II, III, IV

Some of the Courses taken at the University of Oklahoma (GPA: 4/4):

- Financial Markets and Institutions
- Corporate Finance I and II
- Introduction to Finance Theory
- Advanced Econometrics

Courses taken at the University of Michigan (GPA 3.8/4):

- Mathematics for Economists
- Microeconomic Theory I
- Microeconomic Theory II
- Microeconomic Theory III
- Microeconomic Theory IV
- Econometric Analysis I
- Econometric Analysis II
- Fundamentals of Investment Decisions with Symmetric Information
- Empirical Asset Pricing
- Continuous Time Asset Pricing
- Structural Estimation
- Macroeconomic Theory I
- Macroeconomic Theory II
- Industrial Organization and Public Policy II
- Corporate Finance
- Theoretical Models in Finance I
- Theoretical Models in Finance II
- Research Topics in Finance
- Teaching Fundamentals

Hedieh Rashidi Ranjbar
PhD candidate in Finance
University of Michigan

Essay for application to the NBER Innovation Research Boot Camp 2022

Exploring different research areas to find those that fit my interests most, I have found entrepreneurship and innovation most intriguing because I believe that they play an important role in creating jobs and expediting economic growth. Having grown up in a country that struggles with a high unemployment rate, I am eager to investigate how policies can facilitate entrepreneurial and innovative activities and strengthen their outcomes in the forms of creating jobs, increasing equality, and facilitating economic growth.

I am particularly interested in exploring how new methods of alternative financing, such as Regulation A+ offerings and return-based (debt or equity) crowdfunding, can help alleviate frictions that exist in the market for early-stage financing, and spur entrepreneurship and innovation. Not only informational frictions decrease the chances of raising capital by small companies but also geographical and industrial frictions limit access to financing by startups. To this end, I have been working on two projects on this subject. One studies the characteristics and implications of Regulation A+ offerings, and the second examines the effects of equity crowdfunding.

In my paper on Regulation A+, I use hand-collected data on Regulation A+ offerings to document the characteristics of companies that use this new method of financing. Regulation A+ allows private U.S. and Canadian small and medium-sized companies to raise up to $50M per year from both accredited and non-accredited investors publicly in the form of debt or equity. I observe that the majority of companies that use this method of financing are in regions and industries that could not attract VC-financing ex-ante. This observation shows that Regulation A+ alleviates industrial and geographical frictions that exist in the market for early-stage financing. In addition, the median of $0.5 million in total assets for companies that raised capital successfully through Regulation A+ makes it less probable that these companies could receive bank loans. Finally, because of the large amount of capital (up to $50M) that can be raised using Regulation A+, it is not possible to compare raising capital from accelerators and angel investors with raising capital using Regulation A+. In summary, the data shows that Regulation A+ is filling an important gap in the market for early-stage financing that can potentially contribute to entrepreneurial development in rural America. I also investigate the effect of Regulation A+ offerings on the local economy and on attracting professional investors to industries and regions that previously received low levels of funding. I observe a negative correlation between the amount raised through Regulation A+ and unemployment rate in a region, as well as a positive correlation between the number of successful Regulation A+ offerings and ensuing VC-financing in a region. While so far, these are only correlations, these observations are consistent with the idea that successful Regulation A+ offerings increase economic activity and employment, and the idea that they decrease uncertainty and search costs for VCs and attract them to investment opportunities in new geographical locations.

Hedieh Rashidi Ranjbar
PhD candidate in Finance
University of Michigan

I am also working on a project whose goal is to investigate the effect of access to equity crowdfunding on entrepreneurial activities and innovation in the United States. Entrepreneurship plays an important role in the process of creative destruction and as a result in economic growth. One of the biggest barriers to entrepreneurial and innovative activities is access to capital. The high levels of risk, information asymmetry, and uncertainty involved in financing start-ups and small businesses make access to financing harder for them. Equity crowdfunding allows entrepreneurs to raise capital from non-accredited investors (the crowd) and provides them with a new source of financing. In my project, I use regulations that facilitated entrepreneurs' access to crowdfunding to investigate whether this new method of financing has real economic outcomes. In particular, I am interested in understanding whether it affects the rates of entrepreneurial activities and innovation across the United States.

I am eager to participate in the boot camp because I believe it is an important step toward my goal of doing impactful research in the field of innovation. I would like to become more familiar with the seminal work done in this area and important questions that have remained unanswered and learn from leading scholars in the field. I attended the NBER Entrepreneurship Research Boot Camp in 2021, have been attending the WEFI lecture series, and have been part of the WEFI Fellows biweekly meetings with Professor Michael Ewens and a selected group of PhD students, and found all of these extremely valuable, and I consider the Innovation Research Boot Camp as the natural next step towards gaining a broader and more comprehensive view of leading research topics in this area. I hope that my interest in entrepreneurship and innovation, my current work in the area of alternative methods of financing, and my academic background qualify me to attend the boot camp.

Hedieh Rashidi Ranjbar

January 20, 2022

STEPHEN M.
ROSS SCHOOL OF BUSINESS
UNIVERSITY OF MICHIGAN

January 20, 2022

Professor Kevin Bryan
Professor Ben Jones
Professor Heidi Williams

Recommendation Letter for Hedieh Rashidi Ranjbar

Dear Professors Bryan, Jones, and Williams,

I am writing to enthusiastically recommend **Hedieh Rashidi Ranjbar** for the 2022 NBER Innovation Research Boot Camp. Hedieh is a fourth-year PhD student in Finance at Michigan Ross, who advanced to candidacy a year ago following the submission and presentation of her second-year paper and successful completion of her PhD coursework.

Hedieh is very interested in the economics of entrepreneurship and innovation, and all her ongoing projects and research ideas are in this area. Her current research interests focus on new methods of alternative financing, such as equity and debt crowdfunding and Regulation A+ financings. She has a working paper on the characteristics and implications of Regulation A+ offerings and is working on a project on equity crowdfunding.

For her Regulation A+ paper, Hedieh has performed substantial data collection and analysis of Regulation A+ offerings, exploring the characteristics of firms that use this method of financing and trying to understand the implications of such financings for firms, investors, and the local economy. Her main current conclusion is that Regulation A+ provides access to financing to firms that would otherwise not be able to raise capital through other sources, such as bank financing, angel financing, as well as VC capital (she shows that most companies using A+ financing are located in industries and regions that do not typically attract VC-financing). Thus, Regulation A+ has the potential to alleviate the frictions that prevent access to capital to young entrepreneurial firms and could successfully complement other methods of financings. Hedieh is also looking at the relationship between successful A+ offerings and economic activity in the local economy, as well as future VC investments in that area.

Hedieh has also been working on a project that examines the effects of equity crowdfunding. In particular, she is interested in understanding how recent regulations that facilitated equity

crowdfunding have affected entrepreneurship and innovation, and what frictions in financing young startups and small businesses equity crowdfounding can help alleviate.

Hedieh has demonstrated a strong interest in entrepreneurship and innovation: she has been part of the WEFI Fellows Program organized by Mike Ewens since last spring, and has also been attending the WEFI lectures and seminars. Last summer, she took part in the NBER Entrepreneurship Research Boot Camp, which she found extremely valuable. Hedieh has also presented and discussed papers on entrepreneurship and innovation in reading groups in our finance department. I have been part of these reading groups, and Hedieh has been actively participating and offering her views on other papers we discuss, so I have no doubt that she would contribute to the discussions at the boot camp. I hope that Hedieh's work on new methods of entrepreneurial financing, her enthusiasm about the subject, and her international experience (she received her undergraduate and master's degree in Iran, worked there as a stock market analyst for a few years, and also spent a year in Italy) will enhance the group discussions if she is admitted.

Please feel free to contact me if you have any questions.

Sincerely,



Nadya Malenko

Associate Professor of Finance

Ross School of Business, University of Michigan

nmalenko@umich.edu