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Recommendation Letter Writer: Liu Yang
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Dear Sir or Madam,

I am a second-year PhD student in the Finance Department at the University of Maryland and I am writing to apply to attend the NBER Entrepreneurship Research Boot Camp.

My great interest to this boot camp stems not only from personal experience as an entrepreneur, which earned me insights of running a startup and negotiating with venture capitalists, but also from my current and potential research projects, which are concentrated in the area of corporate finance, with a particular focus on mergers and acquisitions, entrepreneurship and corporate governance. Topics that I have studied or want to study include corporate venture capital, board diversity, corporate governance in startups. I believe the materials covered in the boot camp will aid in expanding the scope of my research in many ways.

Additional, the boot camp is more than cutting edge research in entrepreneurial finance. It is also a great opportunity to interact with the leading faculty as well as other PhD students who share research interests. Meeting and connecting with established researchers is a valuable source of knowledge and inspiration for me. I also look forward to bringing in my skills and insights to this fantastic boot camp.

Enclosed are my CV, application essay and a letter of recommendation from Professor Liu Yang. Thank you for your time and consideration. If you have any questions, please feel free to reach me at the above email address or telephone number.

Sincerely,

Sophia Jing Xue

Application Essay for 2019 NBER Entrepreneurship Research Boot Camp
Applicant: Sophia Jing Xue

Conducting state-of-the-art research in entrepreneurial finance is of huge interest to me. My passion originally stems from my own experience as an entrepreneur who successfully founded a startup and worked with venture capitalists, which earned me a real life perspective of business operations. More importantly, my training and research work let me go into the entrepreneurship from a different angle. The rest of this essay will expand upon my cover letter in providing my motivations for attending the NBER Entrepreneurship Research Boot Camp and the qualifications that I believe make me a strong candidate to benefit from and contribute to the program.

First, my research can greatly benefit from the boot camp. Having a better sense of the state of literature will help in constructing my dissertation questions. Also, I hope to learn about more great paths I can take to find data and projects. My current research work is concentrated in the area of corporate finance, with a particular focus on mergers and acquisitions, entrepreneurship and corporate governance.

One project I am working on is about corporate venture capital that has proliferated greatly in recent years. The focus of this study seeks to test whether the rise in corporate venture capital investment is responsible for the gap in corporate investment. I investigate the driving forces that lead the firms to invest in startups outside their own firm boundary and how corporate ventures interact with entrepreneurs. I am getting access to Cencus data (through a project with Professor Yang), which equips me with better data to study the characteristics of those startups. At this stage, I will definitely benefit from a entrepreneurship workshop, including but not limit to seminars in entrepreneurial financing, strategy, management, organization, innovation and current phrase of empirics.

Another project I conduct lies in the intersection of corporate governance and M&A, in which I construct a multidimensional measure of experience diversity in directors. By using the diversity in supply of directors as an instrument, I exploit the exogenous variation in board composition and show that greater board diversity leads to more diversifying strategies in mergers and acquisitions.

One line of research I hope to pursue is corporate governance in emerging small businesses. Venture capitalists investing in startups typically receive preferred stock and extensive control rights, and this combination of arrangements often leads to an unusual corporate governance environment. An interesting question for me would be whether our established traditional corporate finance findings apply to the performance of new business. How governance provisions are evolving and their effects on innovation and entrepreneurship is a first order concern for academics and policy makers. ERBC will serve to broaden my perspective on the early life cycle stage issues that regulators and venture capitalists face, and thus improve the scope of my investigations. This boot camp, in turn, will make my research more impactful.

Moreover, I expect that the boot camp will offer a great platform that would connect me to some of the brightest and knowledgeable people in the field. In addition to the hard information the conference presents and insight attendees pick up in conversation, I anticipate that the interaction of leading faculty and other students will make this environment extremely vibrant and inquisitive. The speakers and other attendees will be a valuable source of insight and inspiration that will fuel my efforts in further research.

Last but not least, I want to address the return on granting me admission. I will bring in my insights of running a startup and negotiating with venture capitalists, based on my real world experience. Also, I tend to be an active participant by giving helpful feedback to others. Additionally, as evidenced in the attached CV, my coursework has given me a strong background in analyzing economic questions both theoretically and econometric ally. It is my hope and expectation that these, combined with intellectual rigor and work ethic, allow me to contribute to expanding our field.

I shall greatly appreciate your favorable consideration of my application.

Sophia Jing Xue

CONTACT INFORMATION

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EDUCATION

Ph.D. in Finance
Robert H. Smith School of Business, University of Maryland, 2017 - 2022(Expected)
M.S. in Finance
Simon Business School, University of Rochester, 2015 - 2016
B.E. in Quantitative Economics
Shanghai University of Finance and Economics, 2011 - 2015

RESEARCH INTERESTS

Corporate Finance, Entrepreneurship, Labor Finance, China's Financial Markets

WOKING PAPERS

Board Diversity and M&A Strategies

I construct a multidimensional measure of experience diversity in directors to examine the effects of board diversity on M&A strategies. Using the diversity in supply of directors as an instrument, I exploit the exogenous variation in board composition and show that greater board experience diversity leads to more diversifying strategies. Specifically, firms with a more diversified board tend to complete more deals. They are more likely to acquire a target that operates in a different industry, is located at a more distance place, and has lower cash flow correlation and lower level of product similarity. Announcement return and post-merger performance are not better for more diversified acquirers.

Rising Corporate Venture Capital and Investment Gap

The focus of this study seeks to test whether the rise in corporate venture capital investment is responsible for the gap in corporate investment. I test whether the CVC investment is an important determinant in firms' capital market and recourse allocation decision. I also investigate the driving forces that lead the firms to invest in startups outside their own firm boundary and how corporate ventures interact with entrepreneurs. I propose a refined total investment, which responses to Tobin's q better. Finally, the project plans to suggest a strategic motive of CVC investment and show that venture investment is a vehicle for innovation to some extent.

EXPERIENCE

Co-Founder & Financial Manager
Enlighten Information Technology Co., Ltd., Shanghai, China, 2013 - 2016

- Founded an Internet-based education company, drafted strategic development and marketing plan; administered external financing and internal cost control.
- Attained 75% profit margin and secured $0.5mil venture investment in 6 months.
- Developed a mature business model and got considerable social platform influence; established R&D team with programmers to develop training systems.

HONORS AND AWARDS

Dean's Fellowship, University of Maryland
Member of Beta Gamma Sigma
Dean's List, University of Rochester
National Baosteel Scholarship, Shanghai University of Finance and Economics(3/20000)

SKILLS

SAS, R, STATA, Python

LANGUAGES

Mandarin (native), English (fluent), Cantonese (fluent)

PHD COURSES

University of Maryland

ECON601 Macroeconomic Analysis I	A
ECON603 Microeconomic Analysis I	A
ECON604 Microeconomic Analysis II	A
ECON623 Econometrics I	A
ECON624 Econometrics II	A+
ECON721 Econometrics III	A+
ECON626 Empirical Microeconomics	A+
BMGT840 Seminar In Financial Theory	A
BMGT841 Seminar In Corporate Finance	A
BMGT848A Financial Research Method	A
BMGT848C Topics In Empirical Corporate Finance	A-

Current Course Information
ECON722 Econometrics IV
BMGT843 Seminar in Portfolio Theory
BMGT848G Seminar in Hedge Funds
BMGT848K Public Policy Perspectives of Finance
BMGT848P Empirical Asset Pricing

University of Rochester

FIN505 Theory Of Finance	A-
FIN534 Empirical Methods In Corporate Finance	AU
MSM505 Theory of Probability and Stochastic Process II	AU
AEC505 Mathematical Techniques in Economics	AU
MSM502 Linear Algebra	AU

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March 29, 2019

To Whom It May Concern,

I am writing to recommend **Sophia Xue** to the NBER Entrepreneurship Research Boot Camp 2019. Sophia is a second-year student in our PhD program. She is doing very well in her course work and has successfully passed the first-year qualifier exam last summer. She is also off to a great start in research.

In her first-year project (presented at the beginning of the second year), Sophia examines how board diversity affects firm's M&A strategies. She collects information of board members from BoardEx and constructs a diversity index based on their time spent in various industries and demographic characteristics. Using SDC, she finds out whether a firm made acquisitions, especially diversifying acquisitions in any given year. Linking these two things together, Sophia finds that firms with more diverse board are more likely to make diversifying acquisitions while they do not differ in frequency of making non-diversifying acquisitions. She also shows that diversifying acquisitions made by more diverse board do not have different outcome (measured by announcement returns and change of ROA) than other acquisitions. To deal with the endogeneity that firms decide on both board composition and M&A, Sophia instruments board diversity using local supply of directors by tracking directors employed in companies with similar size within a 60-mile radius of the firm. Given that she has only been in the program for a year, I find her work very impressive. It shows a good combination of interesting research ideas, clean data work, and careful empirical strategy.

Sophia has expressed interests in areas of entrepreneurship, labor and finance and corporate finance since the early days when she joined our program. This boot campus sounds like a great opportunity for her to build her knowledge and skill set in entrepreneurship. The timing would also work very well. She will finish her second year

in our program this summer and start to work on her dissertation. This camp would provide lots of useful information for her to think about for her dissertation topics. I encourage you to consider her for this opportunity.

Please feel free to contact me if I can provide more information.

Best Regards,



Liu Yang