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Shi Gu
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January 4, 2021

Dear committee members,

I am a fourth-year PhD student in finance at Kellogg School of Management. I am writing to apply to the Entrepreneurship Research Boot Camp in 2022. My main research interests lie in entrepreneurship and innovation. My advisor, Filippo Mezzanotti, will write and send the recommendation letter.

In my current working project, I study how production outsourcing affects entrepreneurship and innovation by exploiting a policy change in Chinese pharmaceutical industry. Production outsourcing lowers the entry cost of potential entrepreneurs and therefore improves firm entry and innovation. My research statement includes the details and some of my other research.

I have completed PhD coursework in economics and finance, and I have been a teaching assistant at Kellogg in MBA entrepreneurial finance and corporate finance classes. Please see the details in my CV.

Thank you for considering my application.

Sincerely,

Shi Gu

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Education

Northwestern University, Kellogg School of Management
Ph.D., Finance 2018 - 2024 (expected)

Tsinghua University, School of Economics and Management
M.A., Economics 2015 - 2018
B.A., Economics 2011 - 2015

Research Interests

Entrepreneurship and Innovation; Corporate Finance; Industrial Organization

Teaching Assistant

2021 – 2022 Corporate finance (MBA), Prof. Filippo Mezzanotti
Entrepreneurial Finance and Venture Capital (MBA), Prof. Sean Higgins and Prof. Scott Baker

2020 – 2021 Corporate finance (MBA), Prof. Carola Frydman, Prof. David Masta and Prof. Jacopo Ponticelli
Financial Strategy and Tax (MBA), Prof. Mitchell Petersen
Macroeconomic Policy and Global Capital Markets (MBA), Prof. Nicolas Crouzet

2019 – 2020 Corporate Finance (MBA), Prof. Carola Frydman, Prof. Jacopo Ponticelli
Financial Strategy and Tax (MBA), Prof. Mitchell Petersen
Macroeconomic Policy and Global Capital Markets (MBA), Prof. Janice Eberly

Research Assistant

2021 summer RA to Prof. Filippo Mezzanotti
2020 summer RA to Prof. Mitchell Petersen
2019 summer RA to Prof. Jacopo Ponticelli
2017 - 2018 RA to Prof. Christian Lundblad
2016 - 2017 RA to Prof. Neil Pearson

Completed PhD courses

2019-2020 Corporate Finance (1,2,3), Asset Pricing (1,2,3), Advanced Macroeconomics (1,2,3)
2018-2019 Microeconomics (1,2,3), Macroeconomics (1,2,3), Econometrics (1,2,3)

Work in Progress

Production outsourcing and innovation: evidence from Chinese pharmaceutical industry

- I study how production outsourcing affects entrepreneurship and innovation by exploiting a policy change in Chinese pharmaceutical industry.

Local protectionism and innovation efficiency: evidence from Chinese pharmaceutical industry

- I study how local protectionism causes innovation inefficiency in the context of Chinese pharmaceutical industry.

Regulating product varieties: the case of Chinese book industry

- I study the effects of regulating the number of new products on product market, firm dynamics and consumer welfare in the context of Chinese book industry.

Personal Information

Citizenship: Chinese
Languages: Mandarin, English

Research Statement

Shi Gu

My research interests lie in entrepreneurship and innovation. I am interested in the questions on patenting, entrepreneurial finance and entrepreneurship, the creation of new firms and new products. I also study broader issues that are related to industry organization, such as competition and efficiency in innovation, prices and quality of new products, and welfare effects of related public policies. I am currently working on three projects in these areas.

The main project I am working on is "Production outsourcing and innovation: evidence from Chinese pharmaceutical industry", which I expect to be my job market paper. In this research, I study how production outsourcing affects entrepreneurship and innovation. Historically, firms have R&D, invention, product design, production and marketing in house. Under such circumstances, a firm has to make a large investment in property, plant, and equipment to manufacture its own products. Production outsourcing helps the firm avoid this investment and allows the firm to focus its financial and managerial resources on product innovation. In particular, for potential entrepreneurs, especially for those with financial constraints, production outsourcing lowers their entry cost and therefore could improve firm entry and innovation.

I investigate this question by exploiting a policy change in Chinese pharmaceutical industry. Historically, only the firms with production capacity and GMP (Good Manufacturing Practice) licenses are qualified to obtain drug marketing licenses, and then produce and sell drugs in China. In other words, only drug producers are allowed to sell the drugs they produce. In 2016, the Chinese government starts the "Pilot Program of the System of the Holders of Drug Marketing Licenses". The polit program is conducted in ten provinces (cities). Within these pilot administrative regions, all the firms and people, including the drug research and development institutions, scientific research personnel, are qualified as the holders of drug marketing licenses. The holder that does not possess the corresponding production qualification is allowed to entrust a qualified drug production enterprise within the pilot administrative region to produce the drugs approved to be marketed. To summarize, production outsourcing is allowed in Chinese pharmaceutical industry starting from 2016. To study how this policy affects entrepreneurship and innovation, I collected rich drug-level and firm-level data, including patenting, firm entry, clinical trial, new drug applications and drug production.

My other working project is "Local protectionism and innovation efficiency: evidence from Chinese pharmaceutical industry". In Chinese pharmaceutical industry, there are many drug products that have similar efficacy. In this research, I study how local protectionism causes this redundant innovation phenomenon. In China, most hospitals are public hospitals and public hospital procurement accounts for a large share of drug market. In the context of local economics competition, local government usually encourages public hospitals to buy the drugs produced by

local firms. Under such circumstances, firms would like to develop drugs that have similar efficacy to existing products, since their “new” products would be supported by local hospitals and local government so that they could still obtain some market shares.

In another working project “Regulating product varieties: the case of Chinese book industry”, I study the effects of regulating the number of new products. In China, prior to a book publication, the publisher has to obtain a unique CIP number for the book from National Press and Publication Administration (NPPA). Historically, there is no constraint on the application and use of CIP number. The CIP number is only used as bibliographic records. In March 2018, Chinese government starts to restrict the issuance of CIP number, in order to reduce the number of "low-quality" books in the market. To study the effects of this policy, I obtained transaction-level data from the largest online book retailer in China (Dangdang.com) which accounts for 40% of market share, and the data of daily published new books from NPPA. I study how this policy affects book variety, price and quality, and consumer welfare.

I will continue this line of research in the future, there are still lots of interesting questions could be explored about entrepreneurship and innovation. To gain more knowledge and skills in this area, I sat in the PhD innovation classes last year, and I applied to be the teaching assistant of MBA entrepreneurial finance course this year. I learned a lot from these classes. However, there is no PhD entrepreneurship course in Kellogg. So, this boot camp provides a good chance for me to develop a systematic understanding of entrepreneurship and entrepreneurial finance. I am particularly interested in what leading topics are in this area. I believe attending the boot camp would be very helpful for my research.

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Filippo Mezzanotti
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Northwestern University
Kellogg School of Management
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To whom it may concern,

It is my pleasure to write a recommendation letter for Shi Gu for his admission to the Entrepreneurship Research Bootcamp.

Shi is a PhD student at Kellogg in Finance and has worked with me as a research assistant over the past summer. Building on this work as a RA, we are still collaborating on an empirical project.

Shi is a very promising PhD student with interest at the intersection of finance and innovation. He is very creative and has shown a lot of promise in coming up with new ideas and data. He has recently obtained a grant from a research center at Kellogg to acquire very nice data set on the pharmaceutical sector in China, and he is working right now on two projects using this data. The projects are relatively early stage, but they appear promising to me.

I think he is a great candidate for the Bootcamp. He is smart and creative, having the potential to be a very good job market candidate. He would also benefit greatly from the Bootcamp since Kellogg does not offer a specialized class in this field. He has tried to fill this gap with individual work (and obviously taking all the relevant classes available), but I think attending the Bootcamp would be of great benefit for him.

Overall, I strongly support his application for the Bootcamp. If I can provide any additional information about him, please do not hesitate to contact me.

Best regards,

Filippo Mezzanotti



Professor Filippo Mezzanotti | Assistant Professor of Finance
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