Imperial College Business School

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25/03/2021

Tong Yu
PhD student in Finance

National Bureau of Economic Research
1050 Massachusetts Ave.
Cambridge, MA 02138

RE: NBER Entrepreneurship Research Boot Camp 2021 Application

Dear ERBC Committee,

I am writing to apply for NBER Entrepreneurship Research Boot Camp 2021. I am currently a second-year PhD student in Finance at Imperial College London, and co-supervised by Professor Ramana Nanda and Professor Franklin Allen. I am particularly interested in the fields of corporate finance, entrepreneurial finance, innovation and FinTech, which aligns perfectly with the focus of this workshop.

Given the chance, I would be given an excellent overview of the entrepreneurship literature and opportunity to network with peer students with similar research interests, which would facilitate my research progress on entrepreneurial finance and innovation. Thank you for your time and consideration. I am looking forward to hearing from you.

Professor Ramana Nanda ramana.nanda@imperial.ac.uk will provide the recommendation letter.

Sincerely yours,

Tong Yu

Enclosed: Curriculum Vitae, PhD Courses List, Statement of Purpose

Tong Yu

Curriculum Vitae

Department of Finance
Imperial College Business School
South Kensington, London, UK, SW7 2AZ

Tel: +44 (0)7526 135646
E-mail: t.yu18@imperial.ac.uk
Website: http://www.imperial.ac.uk/people/t.yu18

EDUCATION

Imperial College London, Business School — London, UK
Ph.D. in Finance, 2019-2024
M.Res. in Business, 2018-2019
Supervisors: Ramana Nanda (Advisor), Franklin Allen (Co-advisor)

London School of Economics and Political Science — London, UK
M.Sc. in Finance and Economics, 2017-2018

Stanford University — Stanford, CA
Quantitative Methods in Finance Graduate Certificate, 2016-2017

University of Wisconsin — Madison, WI
M.Sc. in Economics, 2015-2017

Wuhan University — China
B.Econ. in Financial Engineering, 2010-2014

RESEARCH INTERESTS

Primary fields: Corporate Finance, Entrepreneurial Finance and FinTech
Secondary fields: Machine Learning and Big Data, Environmental/Energy Finance

CONFERENCE AND SEMINAR PRESENTTATION

- Finance PhD Pitch Perfect (coached by Bruno Biais and Norman Schürhoff), Nova School of Business and Economics, 2021
- Finance PhD Seminar, Imperial College Business School, 2020, 2021
- Finance PhD Seminar, University of Wisconsin-Madison, 2017

INVITED WORKSHOP

- **MFS-Wharton Virtual Summer School**
  Open questions in Macro Finance, 2020
- **University of Michigan – Ross School of Business**
  Summer School on Structural Estimation in Corporate Finance, 2019

AWARDS AND HONORS

- Doctoral Research Grant, Imperial College Business School, 2018, 2019, 2020
- Full Doctoral Scholarship, Imperial College Business School, 2018-2023
- Distinction in Master's Dissertation, London School of Economics, 2018
- Finalist for the Best Graduate Student Research Paper Award, University of Wisconsin Madison, 2017
- Outstanding Graduating Student Award, Wuhan University, 2014
- Undergraduate Research Grant, Wuhan University, 2013
- Undergraduate Research Fellowship in Economics, China Business Network & Agricultural Bank of China, 2012
- Dean's List for Outstanding Overall Performance, Wuhan University, 2011-2013
- Outstanding Student Scholarship, Wuhan University, 2011-2013

PROFESSIONAL EXPERIENCE

- Associate of the Society of Actuaries (ASA), 2017-

Tong Yu

PhD Courses List

PhD-level courses at Imperial (2018-2020)

- **Microeconomic Thoery** (Prof. *Ansgar Walther*)
- **Econometric Theory** (Prof. *Paolo Zaffaroni*)
- **Applied Econometrics** (Prof. *Christopher Hansman*)
- **Asset Pricing Theory** (Prof. *Harjoat Bhamra* and Prof. *Andrea Buraschi*)
- **Empirical Asset Pricing** (Prof. *Pasquale Della Corte*)
- **Corporate Finance Theory** (Prof. *Franklin Allen* and Prof. *Gilles Chemla*)
- **Empirical Corporate Finance** (Prof. *Marcin Kacperczyk*)
- **Topics in Household Finance** (Prof. *Tarun Ramadorai* and Prof. *Antoinette Schoar*)
- **Topics in Banking** (Prof. *José-Luis Peydró* and Prof. *Rajkamal Iyer*)
- **Topics in Sustainable Finance** (Prof. *Harrison Hong*)

PhD-level courses at UW-Madison (2016-2017)

- **Theory of Finance** (Prof. *David Brown*)
- **Corporate Finance** (Prof. *Dean Corbea*)
- **Investment** (Prof. *Ivan Shaliastovich*)

PhD-level courses at LSE (2019-2020)

- **Corporate Finance** (Prof. *Mike Burkart*, Prof. *Martin Oehmke*, Prof. *Daniel Paravisini*, and Prof. *Ashwini Agrawal*)
- **Economics of Industry** (Prof. *Pasquale Schiraldi*, Prof. *Alessandro Gavazza*, Prof. *Martin Pesendorfer*, and Prof. *Michael Whinston*)
- **Labor Economics** (Prof. *Steve Pischke*, Prof. *Guy Michaels*, Prof. *John Van Reenen*, and Prof. *Yona Rubinstein*)

Tong Yu

Statement of Purpose

I am Tong Yu, currently a second-year Finance PhD student at Imperial College London. I did my undergraduate studies at one of the best universities in China and came to U.S. (UW-Madison, Stanford) and U.K. (LSE, Imperial) for graduate studies. My main research interests are Corporate Finance, Entrepreneurial Finance, Innovation and Fintech, and my PhD study is co-supervised by Prof. Ramana Nanda and Prof. Franklin Allen.

My recent research is about U.S. shale oil and gas industry. In my first-year summer paper, I try to answer one of the most important questions in finance and economics that do private firms outperform public firms. Answer this question is challenging, as different firms have various investment opportunities, exhibiting a heterogeneity in performance. It is not appropriate to compare without considering the difference in investment opportunities. To overcome this challenge, I use an attractive empirical setting focusing on the U.S. shale oil and gas industry. The shale industry is capital-intensive, petroleum products are homogenous, and oil and gas producers are price takers. In this paper, I use a detailed project level data on almost 60,000 shale well projects undertaken by oil and gas firms. This detailed data allows me to absorb the heterogeneity in investment opportunities via highly granular geographic fixed effects. I use the 2011 fracking chemical disclosure as an exogenous technology shock and find a 21% relative decline in firm productivity at project level for private firms in the post shock period.

I presented this work as my PhD early stage assessment to the Finance faculty at Imperial, and passed it with the comment: " the faculty members who attended all agreed that you have done an incredible job and that among the PhD's, you rank very highly." This work was also presented in Finance PhD Pitch Perfect hosted by Nova School of Business and Economics. My coaches are Prof. Bruno Biais and Prof. Norman Schürhoff. They both provided valuable and constructive feedbacks and I was told this work will be a home run. Although the setting is attractive and data is interesting, I still have a lot of work to do in this project. I have many options to re-frame this idea: (1) firm disclosure, (2) innovation and productivity, and (3) organization structure. At this

moment, I am writing my second-year summer paper, and plan to collect the data from national fracking chemical registry and combine it with the data I already have to investigate the issues on firm disclosure on fracking chemical use, innovation in fracking chemical and project-level productivity.

For private firms, using the private equity data in the oil and gas industry, I can also explore issues like whether private equity ownership increases firm productivity, innovation and makes firm cleaner, etc. For public firms, using the hedging data from annual reports, I can study the relationship between debt financing and corporate risk management. There is a great potential to dig into this topic further using various data.

Besides the idea in fracking or oil and gas, I am also interested in open banking topics. Open banking regulation in the U.K. offers great opportunities and benefits for FinTech startups. As well as making financial products more competitive and innovative, open banking greatly reduces the time it takes for financial services to be set-up — historically a huge pain point for startups and high growth businesses. This topic is quite new and only a little work has been done so far.

Since I am still in my second year, I have a lot of time to think about research in entrepreneurial finance and innovation, I am open to almost every interesting topics in the field of entrepreneurial finance. I am a person who is passionate about finance research, who strives to achieve excellence, who aims to publish in top-tier journals, and who values the deep insights that can be provided by tackling problems through a variety of perspectives. I look forward to having a place in NBER Entrepreneurship Research Boot Camp. The intensive lectures and networking experience at the bootcamp can gives me an excellent overview of the entrepreneurship literature and opportunity to network with senior researchers and students with similar interests across the world.

March 26, 2021

Dear colleagues:

Tong Yu from Imperial College London has asked me to submit a letter of recommendation supporting his application to the NBER entrepreneurship bootcamp. I am happy to do so.

Tong is in the 2nd year of his Finance PhD at Imperial (in addition to a 1 year MRes). I got to know him when I attended an internal seminar he gave looking at heterogeneity in the adoption of new fracking technologies across US firms and relating this to potential financing constraints.

Although his work was far from polished, he had put in a lot of effort to collect novel data on the chemical compounds being used by different firms, as well as using maps to understand the quality of reserves and nature of wells so as to control for nature of shale gas reserves in their location.

I have since agreed to co-advise Tong, together with Franklin Allen and have found that he is hard working, eager to learn and creative in the way he approaches data collection and use.

Tong has expressed a desire to engage more with the literature in entrepreneurial finance, which I am very supportive of. He will be a TA for my Entrepreneurial Finance class at Imperial this semester and wants to deepen his understanding of the "economics of entrepreneurship" literature by attending the NBER summer bootcamp. I believe this would be an excellent way for him to expand his understanding of the literature as well as get exposure to other students interested in similar topics.

Thanks for your consideration and please feel to reach out with any questions at ramana.nanda@imperial.ac.uk

Best wishes

Ramana