Yifan Shi (Jerry)

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Contact Information
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Research Interests

Public Finance, Entrepreneurial Finance, Corporate Finance, Industrial Organization, Labor Economics

Education

Columbia University in the City of New York — New York, NY
PhD Student in Economics — 2020 – Present
M.Phil. in Economics — 2020 – 2023

Columbia University in the City of New York — New York, NY
BA in Mathematics-Statistics, Financial Economics — Class of 2020

Working Papers

How does Risk-Sharing with Government affect Firm Investment and Financing Decisions?
Many states in the US allow firms to carryback or carryforward their net operating losses (NOL) to lower tax liabilities and receive tax refunds, which makes state governments risk-sharing partners of the firms. Using staggered changes of state carryback policies, I show that firms increased employment by 1.4%, investment by 5.6% and R&D expenses by 10% when carryback period limit increased by an additional year. The investment is financed by both debt issuance and internal cash holdings. The total number of startups also increased by 1.8%, and they hired 2% more employees. These evidence suggest that firms scale up and that entrepreneurs are more willing to take risk in response to government risk-sharing provisions.

The Real Effects of Capital Gains Taxation on Entrepreneurs and Investors
This paper studies how startups and investors respond to capital gains taxation, using a quasi-experiment of Qualified Small Business Stock (QSBS) capital gains tax exemption in 2010. Startups within treated industries received 8.6% to 13.5% more funding, which allowed them to scale up their business, and their revenue increased by 21%. However, treated startups' innovation and profits did not increase. On the extensive margin, I find increases in new startup entry into the treated industries, but one in four of those startups eventually fail. These evidence suggests that investors were deploying capital in lower-quality firms. Additionally, I find weak evidence that investors were timing the realization of capital gains through IPO, buyouts and mergers/acquisitions of their portfolio startups.

Subjective Evaluations and Stratification in Graduate Education
with Jessica Bai, Matthew Esche, and W. Bentley MacLeod
NBER Working Paper 30677

We introduce a model of the admissions process based upon standard agency theory and explore its implications with economics PhD admissions data from 2013-2019. We show that a subjective score that aggregates subjective ratings and recommendation letter features plays a more important role in determining admissions than an objective score based upon graduate record exam (GRE) scores. Subjective evaluations by references who write multiple letters are not only more influential than those of references who write one letter, but they are also more informative. Since multiple-letter references are also more highly ranked economists, this implies that there is a constraint on the supply of high-quality references. Moreover, we find that both the subjective and objective scores are correlated with job placement at a top economics department after the completion of the PhD.

Work In Progress

Corporate Taxation and Entrepreneurial Activity: Evidence from State-level Tax Reforms

The Effect of PhD Education on Innovation (with Yuqi Zhang)

Venture Capital Investment, Startup Competition and Innovation (with Jessica Bai)

Does Foreigners' Stock Ownership affect US Firms' Payout Decisions? (with Wojciech Kopczuk)

The Impact of the Dual-Credit Policy on the Chinese Electronic Vehicle Market (with Tianhao Liu)

Honors, Awards and Fellowships

Doctoral Fellowship (Columbia Econ Dept.)	2020-Present
Summer Research Fellow (PER, Columbia Econ Dept.)	2023, 2021, 2019
Publication Accelerator Grant Recipient (Institute for Humane Studies)	2022
Junior Phi Beta Kappa (Top 2% of Undergraduate Class)	2020
Economics Departmental Honor (Columbia College)	2020

Research Experience

RA for Michael Ewens (Columbia Business School)	2023
RA for W. Bentley MacLeod (Columbia Econ Dept.)	2021-2022

Teaching Experience

Instructor, Corporate Finance (Econ S4280)	Summer 2023
TA, Public Economics by Wojciech Kopczuk	Fall 2023
TA, Behavioral Finance by Harrison Hong	Spring 2022

Industry Experience

Nomura Securities — New York, NY

Summer Analyst, Sales and Trading — Summer 2019

Skills

Programming

R, Stata, Python, MatLab, LaTex

Languages

Mandarin Chinese (native), German (advanced, Goethe-C1 certificate holder)

List of PhD classes taken and in progress:

Title	Letter Grade	Term
ECON GR 6211 Microeconomic Analysis I	A	Fall 2020
ECON GR 6213 Macroeconomic Analysis I	A+	Fall 2020
ECON GR 6410 Math Methods for Economists	A	Fall 2020
ECON GR 6215 Econometrics I	A	Fall 2020
ECON GR 6212 Microeconomic Analysis II	A	Spring 2021
ECON GR 6216 Macroeconomic Analysis II	A	Spring 2021
ECON GR 6915 Perspectives on Economic Studies	A	Spring 2021
ECON GR 6412 Econometrics II	A+	Spring 2021
ECON GR 6451 Economics of Labor	A-	Fall 2021
ECON GR 6805 Public Finance	A	Fall 2021
FINC B 9317 Corporate Finance Theory	A	Fall 2021
FINC B 9319 Asset Pricing Theory	A	Fall 2021
ECON GR 6254 Industrial Organization II	A+	Spring 2022
FINC B 9329 Empirical Corporate Finance	A	Spring 2022
FINC B 9335 Information in Financial Markets	A	Spring 2022
FINC B 9341 Research in Entrepreneurial Finance	A	Spring 2023
ECON GR 6448 Climate Finance	In Progress	Spring 2024

List of PhD classes audited (not taken for credit):

FINC B 9336 Intro to Continuous Time Finance		Spring 2022
FINC B 9331 Empirical Asset Pricing		Fall 2022
ECON GR 6253 Industrial Organization I		Fall 2022

Name of Faculty for Reference Letter

Michael Ewens
David L. and Elsie M. Dodd Professor of Finance
E-mail: michael.ewens@columbia.edu

Personal Statement

My name is Yifan Shi, a 4th year PhD student in the Economics Department at Columbia University. I am a public economist specializing in the intersection of public economics and entrepreneurial finance. My research focus is on investigating how firms react to government policies, particularly in the realm of taxation, using reduced-form methodologies. I have a specific interest in understanding how taxation influences entrepreneurial behavior.

My current work with available drafts includes "The Real Effects of Capital Gains Taxation on Entrepreneurs and Investors", in which I use the quasi-experiment of Qualified Small Business Stock (QSBS) capital gains tax exemption in 2010, which led venture capitalists to increase their investment in startups, to study how VC financing affects startup firms' growth and innovation. In another working paper "How does Risk-Sharing with the government affect Firm Investment and Financing Decisions", I examine how the tax loss carryback policies, which allow firms to share risk with the government, affect firms' risk-taking behavior. I find that such policies encouraged startup firm creation and employment. Please refer to my CV for abstract of these two projects.

More recently, I have been working on another project "The Effect of PhD Education on Innovation" with a colleague at the Columbia Business School. We use college endowment returns as a shock to departmental funding of graduate students, and examine whether the probability of successfully completing the PhD enhances one's likelihood of becoming a future innovator in patents. In "Venture Capital Investment, Startup Competition and Innovation", which is joint work with a Harvard PhD student, we examine whether venture capital financing of startups affect their competitors' performance, using both a structural model and reduced form estimation methods.

In the future, I plan to continue to work on the intersection between taxation and corporate finance by documenting more empirical evidence, and studying other government policies. For example, R&D tax credits has been widely used by firms, but the effect of R&D tax credits on investment in R&D is still not very well understood. Additionally, governments around the world have become increasingly prone to climate-friendly public policies, and a natural question is to study the effect of carbon taxes on incumbent firm growth and whether it allows green startups to enter with lower cost of entry.

Given my research interest in the field of entrepreneurial finance, I would really appreciate the opportunity to participate in the NBER Entrepreneurship Research Boot Camp, where I would interact with faculty who are top experts in this field, read and discuss papers with peers, and engage with fellow PhD students who have similar interests. I am interested in expanding my knowledge in entrepreneurial finance, and what I learn by attending the summer camp could very potentially lead to new research ideas.

COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK

NAME: Yifan Shi
SSN#: XXX-XX-8333
SCHOOL: GRADUATE SCHOOL OF ARTS AND SCIENCES

CANDIDACY: Doctor of Philosophy
MAJOR: ECONOMICS

DEGREE(S) AWARDED:	DATE AWARDED:	
Bachelor of Arts	May 20, 2020	
Master of Arts	May 18, 2022	MAJOR: FINANCIAL ECONOMICS MAJOR: MATHEMATICS-STATISTICS MAJOR: ECONOMICS MA/PHD program HONORS: SUMMA CUM LAUDE

PROGRAM TITLE: Economics

SUBJECT	COURSE NUMBER	TITLE	POINTS	GRADE
Fall 2020				
ECON	GR 6209	MICROECONOMIC ANALYSIS I-	0.00	
ECON	GR 6211	MICROECONOMIC ANALYSIS I	4.00	A
ECON	GR 6213	MACROECONOMIC ANALYSIS I-	0.00	
ECON	GR 6215	MACROECONOMIC ANALYSIS I	4.00	A+
ECON	GR 6408	INTRODUCTION TO ECONOMETR	0.00	
ECON	GR 6410	MATH METHODS FOR ECONOMIS	4.00	A
ECON	GR 6411	INTRODUCTION TO ECONOMETR	4.00	A
RESI	GR 0001	1 RESIDENCE UNIT MORNINGS	0.00	
Spring 2021				
ECON	GR 6206	MICROECONOMIC ANALYSIS II	0.00	
ECON	GR 6208	MACROECONOMIC ANALYSIS II	0.00	
ECON	GR 6212	MICROECONOMIC ANALYSIS II	4.00	A
ECON	GR 6216	MACROECONOMIC ANALYSIS II	4.00	A
ECON	GR 6406	INTRO TO ECONOMETRICS II-	0.00	
ECON	GR 6412	INTRODUCTN TO ECONOMETRIC	4.00	A+
ECON	GR 6915	PERSPECTIVES ON ECON STUD	0.00	A
ECON	GR 6930	PERSPECTVS ON ECONOMIC ST	4.00	A
RESI	GR 0001	1 RESIDENCE UNIT MORNINGS	0.00	
Fall 2021				
ECON	GR 6451	ECONOMICS OF LABOR I	3.00	A-
ECON	GR 6805	PUBLIC FINANCE I	3.00	A
ECON	GR 8714	APPL MICROECON METHODS CO	2.00	P
ECON	GR 8730	FINANCIAL ECONOMICS COLLO	2.00	P
FINC	B 9317	(PHD) CORPORATE FINANCE T	3.00	A
FINC	B 9319	(PHD) ASSET PRICING I	3.00	A
RESI	GR 0001	1 RESIDENCE UNIT MORNINGS	0.00	
Spring 2022				
ECON	GR 6254	INDUSTRIAL ORGANIZATION I	3.00	A+
ECON	GR 8714	APPLIED MICROECON RES METHODS	2.00	P
ECON	GR 8730	FINANCIAL ECONOMICS COLLO	2.00	P
FINC	B 9329	EMPIRICAL CORPORATE FINAN	3.00	A
FINC	B 9335	INFORMATION IN FINANCIAL	3.00	A
RESI	GR 0001	1 RESIDENCE UNIT MORNINGS	0.00	
Fall 2022				
ECON	GR 8440	COLL IN INDUST ORGANIZATI	2.00	P
ECON	GR 8714	APPL MICROECON METHODS CO	2.00	P
ECON	GR 8730	FINANCIAL ECONOMICS COLLO	2.00	P
RESI	GR 0001	1 RESIDENCE UNIT MORNINGS	0.00	
Spring 2023				
ECON	GR 8440	COLL IN INDUST ORGANIZATI	2.00	A
ECON	GR 8714	APPLIED MICROECON RES METHODS	2.00	P
ECON	GR 8730	FINANCIAL ECONOMICS COLLO	2.00	P
FINC	B 9341	RESEARCH IN ENTREPREN. FI	1.50	A
RESI	GR 0001	1 RESIDENCE UNIT MORNINGS	0.00	
Fall 2023				
ECON	GR 8440	COLL IN INDUST ORGANIZATI	2.00	P
ECON	GR 8714	LABOR & PUBLIC FINANCE CO	2.00	P
ECON	GR 8730	FINANCIAL ECONOMICS COLLO	2.00	A
EXRS	GR 0001	EXTENDED RESIDENCE F/T	0.00	

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Barry S. Kane
Associate Vice President and University Registrar

Copy of Official Transcript

TO VERIFY AUTHENTICITY OF DOCUMENT, THE BLUE STRIP BELOW CONTAINS HEAT SENSITIVE INK WHICH DISAPPEARS UPON TOUCH

Columbia Business School

Michael Ewens
David L. and Elsie M. Dodd Professor of Finance
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Michael.ewens@columbia.edu

17th Entrepreneurship Research Boot Camp (ERBC)

Recommendation for Mr. Yifan Shi

Dear Boot Camp Organizers,

I am writing to support Yifan (Jerry) Shi's application for the 2024 Entrepreneurship Research Boot Camp. Jeremias is an economics Ph.D. student at Columbia University with excellent research potential, and I encourage you to give him your most careful consideration.

Since early 2023, Jerry and I have been meeting monthly to discuss his research. He has impressed me with his deep thinking, creativity, and adaptability in facing the usual roadblocks in research (e.g., data constraints and institutional setting quirks). In his research, he seeks to answer questions in the public finance and entrepreneurship literatures: what role does tax policy play in firm financing decisions and outcomes. He has two working papers that have a real shot at top journals after some revisions. I should also note that Jerry has worked with me as an RA for the last six months. During that time, he has impressed me with his creative solutions, patience with data, willingness to push back on my ideas, and communication skills.

As a 2009 boot camp attendee, I know the week's benefits for a graduate student. While I understand the bootcamp organizers aim to support students from outside the top schools, Jerry deserves a close look. He would benefit from a deep dive into all the areas of entrepreneurship research and networking with students from other disciplines. One reason Columbia hired me is to support entrepreneurial finance research among our PhDs, which, with some exceptions, has been absent. I taught the first class in the area this term to fill this gap (Jerry took the course). The economics PhDs have excellent economics, econometrics, and corporate finance training. Jerry's strong foundation in these areas ensures a high return to learning more about entrepreneurship research. Finally, I am confident that Jerry will also be an excellent participant in the bootcamp's unique setting: he asks thoughtful questions driven by a deep intellectual curiosity and has the traits of a great academic collaborator.

He has my strongest recommendation.

Sincerely,
Michael Ewens
David L. and Elsie M. Dodd Professor of Finance
Columbia Business School

Henry R. Kravis Hall, 732
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New York, NY 10027