Cover Letter

2020 NBER Behavioral Macro Camp

To Whom It May Concern,

I am a 1st-year Ph.D. student in Economics at Harvard University, working on macro, finance, behavioral economics and neuroeconomics. I would like to attend the 2020 NBER Behavioral Macro Camp, to develop my research interests in behavioral macro, and to learn from leading scholars and communicate with other students in this field.

My working paper with Emmanuel Farhi and Xavier Gabaix builds a model of mental accounting and explores its implication on welfare and policy. In my senior thesis, I investigate rational inattention in general equilibrium setting with heterogeneous information, and show that inattention is exacerbated and aggregate response to shock more dampened in the presence of strategic complementarity. My ongoing works also include pure and applied micro theory.

As for my training, I waived my 1st-year courses at Harvard and have been taking field courses extensively in macro, finance, behavioral economics and microeconomic theory.

I would appreciate a chance to participate in and contribute to the camp.

Thank you for your consideration,

Lingxuan “Sean” Wu

Contact Information

Lingxuan Wu

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Reference

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Lingxuan "Sean" Wu

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Education

2019 – present *Harvard University*, Ph.D. in Economics

2015 – 2019 *Tsinghua University*, B.S. in Mathematics and Physics, B.A. in Economics with Certificate in Finance, Highest Distinction

Other Experience

Jan – Sep 2018 *Harvard University*, Visiting Undergraduate Student & Summer Research Intern

Aug – Dec 2017 *University of California, Berkeley*, Visiting Undergraduate Student

Working Papers

2. "**Mental Accounting for Public Economics**," with Emmanuel Farhi and Xavier Gabaix.
We propose a simple model of mental accounting. We use it to explore how mental accounting changes canonical results on welfare and policy. For example, vouchers targeted to a specific mental account influence the composition of consumption and may be desirable. Moreover, mental accounting breaks the equality between the rational elasticity and behavioral price-elasticities of demand. This disconnect has sharp implications: Ramsey taxes to raises revenues and Pigou taxes to correct for externalities decrease with the behavioral elasticity but increase with the rational elasticity. The model features a new portable parametrization of mental accounting. It finds support in recent empirical work.

1. "**Learning to Cooperate in a Reverse-Aging Relationship**," with Yuichiro Kamada.
In many long-run relationships, the expectation of when the relationship will end affects the way people interact. We consider a repeated two-player game in continuous time where the hazard rate at which the relationship ends is uncertain. As time goes on, players grow more optimistic that the relationship will last longer into the future. We characterize the optimal trigger strategy equilibrium using a differential equation and show that the degree of cooperation goes up over time. This result of increasing cooperation contrasts with the prediction of decreasing cooperation arising under backward induction in games with a deterministic ending.

Teaching Experience

Tsinghua University

Spring 2019 Economics of Online Platforms and the Sharing Economy (undergraduate)
- TA for Prof. Alexander White

Honors and Awards

2019 Doctoral Fellowship in Economics, Harvard University

2019 Chi-Sun YEH Prize for Best Undergraduate Student in Physics, Tsinghua University

2017 Tang Lixin Scholarship, Tang Lixin Education Foundation

2016 China's National Scholarship, Ministry of Education of China

2016 Siyuan Fellowship, Siyuan Program & Tsinghua Entrepreneur and Executive Club

References

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Emmanuel Farhi

Robert C. Waggoner Professor of Economics

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Gender	Male
Citizenship	China
Languages	Chinese (native), English (fluent)
Other	Member of Tsinghua University Ski Team, 2018 – 2019

Ph.D. Courses in the U.S.*

Semester	Grade/Status	School	Type	Course	Instructors
2019 fall	in progress	Harvard	field	Psychology and Economic Theory	Matthew Rabin
2019 fall	in progress	Harvard	field	Advanced Topics in International Macro and Finance	Matteo Maggiori
2019 fall	in progress	Harvard	field	Asset Pricing	John Campbell
2019 fall	in progress	Harvard	field	Corporate Finance and Banking	Adi Sunderam, Sam Hanson
2019 fall	registration-free	Princeton	field	Macro, Money and International Finance	Markus Brunnermeier
2018 summer	registration-free	MIT	-	Jean Tirole's Annual MIT Summer Mini Course	Jean Tirole
2018 spring	A	Harvard	field	Macro-Finance: Rational and Behavioral	Xavier Gabaix
2018 spring	A	Harvard	core	Macro Theory	Emmanuel Farhi, Ken Rogoff
2018 spring	A	MIT	field	Game Theory	Drew Fudenberg, Muhamet Yildiz
2018 spring	audited	Harvard	field	Decision Theory	Tomasz Strzalecki
2017 fall	A+	Berkeley	field	Discrete Time Asset Pricing	Nicolae Gârleanu
2017 fall	audited	Berkeley	field	Industrial Organization Theory	Joseph Farrell
2017 fall	A	Berkeley	math phd	Probability Theory	Nike Sun
2017 fall	A	Berkeley	math phd	Topology and Analysis	Alan Hammond

*For 1st-year sequences, I waived micro for the whole year, and macro and metrics in the fall. I took spring-semester macro in 2018 when I was a visiting undergrad at Harvard.

Essay

2020 NBER Behavioral Macro Camp

Lingxuan "Sean" Wu*

I am a 1st-year Ph.D. student in Economics at Harvard University, working on macro, finance, behavioral economics and neuroeconomics. I would like to attend the 2020 NBER Behavioral Macro Camp, to develop my research interests in behavioral macro, and to learn from leading scholars and communicate with other students in this field.

My working paper with Emmanuel Farhi and Xavier Gabaix builds a model of mental accounting and explores its implication on welfare and policy. We show that mental accounting adds additional income effect to people's consumption choice and may subject them to suboptimal consumption decision in response to price changes. It might be in the government's interests to provide uniform subsidy to goods within a mental account. We also provide a way to measure mental accounting rigidity from empirical marginal propensities to consume out of general transfer and targeted vouchers.

In my undergraduate thesis, I investigate rational inattention in general equilibrium setting with heterogeneous information, and show that inattention is exacerbated and aggregate response to shock more dampened in the presence of strategic complementarity. That showcases the potential interaction of heterogeneity and bounded rationality. Pioneering behavioral macro

* Harvard University, lingxuanwu@g.harvard.edu.

theory works mostly treat behavioral biases as ad hoc phenomena, while the next step in my view would be to examine the foundations and implications more closely. Even in micro settings, it is not uncommon that a model tailored to explain one set of behavioral biases may make somewhat stunning predictions in alternative settings. Further, it seems reasonable to postulate that the behavioral biases driving macro phenomena might be different from the psychological forces at play at micro level, for which I aspire to develop disciplined theories. I also have interests in topics related to evaluation and decision making in psychology and neuroscience.

My past and ongoing works also involve pure and applied micro theory. My working paper with Yuichiro Kamada shows that the equilibrium path can feature increasing cooperation when players learn on the stochastic ending of the game, breaking the overly strong backward induction argument for no or decreasing cooperation for games with deterministic endings. My work with Alexander White proposes a new solution concept for platform competition. One of my current explorations uses reference-dependent utility to explain context effects. My research experiences in pure and applied micro theory equip me with a well-founded view for macro.

As for my training, I waived my 1st-year courses and have been taking field courses extensively in macro, finance, behavioral economics and microeconomic theory. The Ph.D. courses I have taken and audited include Asset Pricing and IO Theory at Berkeley, Macro Theory, Macro-Finance, International Macro and Finance, Asset Pricing, Corporate Finance and Banking, Behavioral Economics Theory and Decision Theory at Harvard, as well as Game Theory at MIT.

I would appreciate a chance to participate in and contribute to the camp.

HARVARD UNIVERSITY
DEPARTMENT OF ECONOMICS

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Pershing Square Professor of Economics and Finance

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Littauer Center, Room 209
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Cambridge, MA 02138

12/6/19

Dear Fellow Economists:

I most strongly recommend **Lingxuan (aka Sean) Wu** for the behavioral macro bootcamp. I think you should absolutely have him.

He's only a first year student, but I think he's likely to be a top student in his PhD cohort, and he masters more economics that most 3rd or 4th year PhD students.

I've known Sean since January 2018, when he was a visiting undergraduate student from Tsinghua University. He was taking PhD courses at Harvard, and he took, for credit, my second year PhD course on "Macro-Finance: Behavioral and Rational." I was impressed by Sean. This undergraduate was consistently the best at answering questions and asking the most probing questions—better than the Harvard and MIT PhD students who were taking the course. He also got the best grade.

We got to know each other better, and I hired him as a research assistant on two behavioral projects from about April 2018-September 2018, and again since September 2019. He did mostly proofreading, but I also asked him to do some literature searches and close reading on some papers. In some cases, I asked him to complete some "proof sketches" (in part to test him), and he did great.

Sean is very interested in behavioral macroeconomics. He's vocal, opinionated – in a way that's good --- he thinks about "what's really going on".

I have the highest hopes for Sean, and if he continues in this path (which is likely) for him in behavioral macro.

Thank you,



Xavier Gabaix