Hao Bo
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EDUCATION
Ph.D.   Economics, University of Maryland College Park, August 2020
M.A.   Economics, University of Colorado at Boulder, Spring 2012
B.S.   Statistics, Renmin University of China, Spring 2009

INTEREST AND SKILLS
I like to creatively solve practical problems. I have a good command of causal inference and machine learning. I can use statistical methods creatively and thoughtfully (e.g., the NBER paper "Assessing External Validity"). I also like to model human interactions and to analyze large-scale data or network data (e.g., the job market paper on my website).

FIELDS OF SPECIALIZATION DURING Ph.D. EDUCATION
Econometrics, Applied Microeconometrics

DISSERTATION
Applied Economics Essays
Committee: Prof. Sebastian Galiani (Chair), Prof. Peter Murrell, Prof. Ingmar Prucha, Prof. John Wallis

JOB MARKET PAPER
"Socially Embedded Knowledge Networks and the Making of Opinion Leaders: Evidence from Twitter"

This paper focuses on knowledge markets exploring how network relationships between knowledge consumers impact the equilibrium number of opinion leaders. Both a theoretical model and empirical analysis show that there'll be more opinion leaders in a knowledge market if the most active knowledge consumers occupy more central positions in a social network connecting consumers. The model formalizes the following story. Knowledge consumers are embedded in network relationships through which they influence each other on which opinion providers they pay attention to. If the most active (thus most capable to influence) knowledge consumers occupy more central network positions, consumer attention gravitates toward some opinion providers, and this turns more opinion providers into opinion leaders. The model inspires and is supported by empirical analysis using a Twitter network and associated tweets. First, unsupervised machine learning is used to define knowledge markets: topic modeling finds 45 topics in tweets, network community detection yields 4 nearly isolated Twitter sub-networks, and a knowledge market is then defined by a combination of one topic and one sub-network. Second, with each knowledge market being a unit of observation, we define variables and test our theoretical predictions. This is the first paper to formally define opinion leaders, knowledge markets, and consumer attention. While the existing literature emphasizes the role of opinion providers' network positions on the making of opinion leaders, this work shows the network positions of active consumers matter because active consumers serve as a propagation machine.

OTHER RESEARCH PAPERS

"Assessing External Validity," 2019, NBER working paper No. 26422, with Sebastian Galiani

"Health, Education, Quantity-Quality Tradeoff, and Economic Growth," work in progress

"Development Spillover and Institutional Changes: A Trade Economy Political Perspective," work in progress

"De Facto Institutions and Domestic Trade Network: Evidence from China," work in progress

TEACHING EXPERIENCE

Instructor, Economic Development of Selected Areas: China (undergraduate), University of Maryland, Fall 2016
Instructor, Industrial Organization (undergraduate), University of Maryland, Summer 2016
Teaching Assistant, Econometrics II (a PhD course), University of Maryland, Spring 2017, Spring 2018, and Spring 2019
Teaching Assistant, Probability and Statistics (a PhD course), University of Maryland, Summer 2017, Summer 2018, and Summer 2019

RESEARCH AND RELEVANT WORK EXPERIENCE

Research Assistant, Development Research Center of Chinese State Council, 2014

GRANTS AND AWARDS

Yordon Prize in Microeconomics, University of Colorado at Boulder, 2011

CONFERENCE AND SEMINAR PRESENTATIONS

2019: Washington Area Development Economics Symposium 2019

REFEREE SERVICES

PLOS One, 2019
Journal of Economic Behavior & Organization, 2016, 2020, 2020

LANGUAGES

Mandarin Chinese (native), English (fluent)

REFERENCES

Prof. Sebastian Galiani	University of Maryland	sgaliani@umd.edu	(301) 405-3518
Prof. Peter Murrell	University of Maryland	pmurrell@umd.edu	(301) 405-3476
Prof. Ingmar Prucha	University of Maryland	prucha@umd.edu	(301) 405-3499