

OFFICE CONTACT INFORMATION

MIT Department of Economics
 77 Massachusetts Avenue, E52-301
 Cambridge, MA 02139
jiezhou@mit.edu
<https://economics.mit.edu/people/phd-students/jie-zhou>

HOME CONTACT INFORMATION

45 Hayward Street
 Cambridge, MA 02142
 Mobile: 608-422-9535

MIT PLACEMENT OFFICER

Professor David Autor
dautor@mit.edu
 617-253-4669

MIT PLACEMENT ADMINISTRATOR

Ms. Shannon May
shmay@mit.edu
 617-324-5857

DOCTORAL STUDIES Massachusetts Institute of Technology (MIT)
 PhD, Economics, Expected completion June 2025
 DISSERTATION: “Essays on Institution and Innovation”

DISSERTATION COMMITTEE AND REFERENCES

Professor Daron Acemoglu
 MIT Department of Economics
 77 Massachusetts Avenue, E52-446
 Cambridge, MA 02139
 617-253-1927
daron@mit.edu

Professor Ben Olken
 MIT Department of Economics
 77 Massachusetts Avenue, E52-524
 Cambridge, MA 02139
 617-253-6833
bolken@mit.edu

Professor David Atkin
 MIT Department of Economics
 77 Massachusetts Avenue, E52-550
 Cambridge, MA 02139
 203-936-9367
atkin@mit.edu

PRIOR EDUCATION University of Wisconsin-Madison 2015
 M.S. in Economics
 University of International Business and Economics 2014
 B.A. in International Trade

CITIZENSHIP China **GENDER:** Female

LANGUAGES English (fluent), Mandarin (native), Japanese (intermediate)

FIELDS Primary Fields: Political Economy, Digital Economics
 Secondary Fields: Development Economics, Trade

MIT Economics

JIE ZHOU

OCTOBER 2024-- PAGE 2

TEACHING EXPERIENCE	14.773 Graduate Political Economy II	2023
	Teaching Assistant to Profs. Daron Acemoglu, Sara Lowes	
	14.770 Graduate Political Economy I	2022
	Teaching Assistant to Profs. Daron Acemoglu, Abhijit Banerjee	
	14.73 Undergraduate Development Economics	2022

Teaching Assistant to Profs. Esther Duflo, Frank Schilbach	
14.475 Graduate Environmental Economics	2021
Teaching Assistant to Prof. Clare Balboni	

RELEVANT POSITIONS	Research Assistant to Professor Ben Olken	2021
	Research Assistant to Professor Tobias Salz	2021
	Research Assistant to Professor Daron Acemoglu	2020
	Research Assistant to Professor Melissa Dell	2019

FELLOWSHIPS, HONORS, AND AWARDS	Association for Comparative Economic Studies Research Award	2024
	George and Obie Shultz Fund (4x)	2021-2024
	Jerry A. Hausman Graduate Dissertation Fellowship	2023
	Castle Krob Fellowship	2019-2021

PROFESSIONAL ACTIVITIES **Referee:** *Journal of Political Economics*; *Journal of Law, Economics and Organization*; *Journal of Development Economics*

Presentations: NEUDC (Northeastern University, 2024); New Thinking on Industrial Policy Conference (Columbia University, 2024); Conference on Digital Experimentation (MIT, 2023); Emerging Markets Institute Conference (Cornell University, 2022)

Service: MIT Undergraduate Research Opportunities Program, MIT Econ Application Assistance and Mentoring Program Mentor

RESEARCH PAPERS **“Firewall for Innovation” (Job Market Paper)**

Do protectionist policies foster domestic innovation in the digital economy, and if so, how? This paper investigates the impact of the Great Firewall (GFW) in China -- the world's largest system of internet regulation -- on the development of domestic mobile apps. It uses unique data that track the technologies and their sources in millions of apps over a decade at the monthly level. First, I provide direct evidence that protectionist policies can spur digital innovation with positive demand shocks. Leveraging the staggered monthly timing of major foreign app blockages by the GFW, I show that their Chinese substitute apps see a 14% increase in in-house technologies over 2 years, with more original features being created. Furthermore, there is a higher adoption rate of Chinese technologies in non-Chinese apps post-blockage. Second, I show that blockages drive innovation in part by expanding data scale. Notably, Chinese apps collect 22% more sensitive data per user after their foreign substitutes being blocked. Leveraging quasi-random variation in the introduction of new data access, I

estimate that a 1% increase in user data leads to a 2% rise in in-house technology development. Moreover, data-sharing networks, expanded after blockages with user data 9% more likely to be sent to third parties, are found to enable a spillover effect further promoting innovation.

“Power and the Direction of Research: Evidence from China's Academia” (with Daron Acemoglu and David Yang)

Can China stimulate and sustain innovation with its juxtaposition of top-down emphasis on innovation and the presence of powerful leaders within academic institutions? In this paper, we investigate whether powerful actors curtail academic autonomy and freedom, and impact the direction and quality of innovation. We collect comprehensive data on the scientific publications of researchers in the leading 109 Chinese universities and the leadership changes in these universities. We use NLP methods to measure the similarity between faculty members' and their leaders' research portfolios. We find that immediately after -- and not before -- the leaders take office, faculty members begin to shift their research direction towards that of their leaders. Such shifts cannot be explained by the signaling of star researchers' activities, but can be attributed to leaders' political power over faculty members' career trajectories. Leaders appointed by the Communist Party exert greater influence on faculty members' research directions, and leaders' influence is stronger among disciplines and institutions that have historically or recently experienced academic persecution. We also document significant costs of leaders' influence on research quality. Below-median productivity leaders lead to even greater increases in similarity, and switches from above-median to below-median leaders is associated with sizable declines in citations. Such decline is driven by citations to papers that are most similar to new leaders.

RESEARCH IN PROGRESS

“From Choice to Compulsion: Does A/B Testing Drive Behavioral Manipulation?”

This study examines the impact of A/B testing -- a widely adopted method by internet companies to leverage user data and inform data-driven decisions -- on the escalation of temptation levels in digital products. I develop a model in which individuals with intertemporally inconsistent preferences make daily decisions regarding the optimal duration for blocking apps, aimed at temptation mitigation. In collaboration with Freedom, one of the largest and most comprehensive commitment applications for blocking distracting apps and websites, I estimate the temptation levels of over 2,000 apps on a monthly basis from 2021 to 2023 using detailed session-level data. Preliminary findings indicate that approximately 20% of app usage can be attributed to temptation and that temptation levels have intensified over time. This trend is strongly correlated with the increasing adoption of A/B testing practices within these applications.

“Increasing Revenue Collection with Computer Vision: Experiments in Pakistan” (with Sher Afghan Asad, Adnan Khan, Ben Olken, and Mahvish Shaukat)

Economic growth in developing countries is often limited by the state’s inability to raise tax revenue. In many countries, tax administration systems rely on infrequently updated and out-of-date property tax valuations, and tax officials often employ significant discretion when assessing properties. These factors can lead to errors that could increase tax leakages or lower citizen trust in the state. This study addresses these challenges through a two-step approach: first, by developing a computer vision algorithm to predict property valuations based on property images; and second, by evaluating the algorithm's effectiveness in identifying properties in need of reassessment.

“Data Sovereignty and Sustainability” (with Yulu Tang)

Developing countries face a trilemma in building their digital economies: (1) the increasing demand for data centers in the digital era, (2) the significant costs of constructing them in warmer regions, particularly in the Global South, and (3) their environmental impact due to a substantial carbon footprint. To address these challenges, we have compiled extensive datasets tracking global internet firms' data center location decisions, user bases, and operating costs across 167 countries over the past two decades. Leveraging this data, we will develop a model to quantify the influence of critical factors -- such as market demand, operational expenses, policy changes related to data security -- on firms' data center site selection. This model enables us to conduct policy counterfactuals, identifying the most effective strategies for reducing costs and minimizing environmental impact. It also provides valuable insights for shaping policy interventions that promote the development of efficient and sustainable data centers, particularly in developing countries.