Zili Yang

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EDUCATION

2026 Ph.D. in Economics (expected)
University of Southern California, CA, United States
Dissertation: "Essays on Firm Innovation and Knowledge Diffusion" (expected)
Committee: Caroline Betts (chair), Thomas Chaney, Pablo Kurlat

2020 M.S. in Economics
University of Wisconsin-Madison, WI, United States

2018 Bachelor of Economics
Huazhong University of Science and Technology, Wuhan, China

RESEARCH INTERESTS

Economics of innovation, Business economics, Economic growth.

WORKING PAPERS

Technology M&A and Knowledge Diffusion (Job Market Paper)

This paper examines how technology mergers and acquisitions (tech M&As) affect the diffusion of target firms' pre-acquisition innovations in the United States. Using US patent and M&A data from 1980 to 2021. This study employs a difference-in-differences approach comparing successful acquisitions with exogenously failed deals; it finds that tech M&As significantly increase external diffusion of targets' technologies, as measured by patent citations, with effects concentrated within the acquirer's industry. Tech M&As do not diminish young firms' ability to cite and build upon acquired targets' patents, contradicting concerns about innovation foreclosure. To interpret these findings and quantify aggregate implications, I develop an idea flow model where firms improve productivity by choosing innovation intensity based on potential targets' technologies, with acquisitions affecting both the innovation step size in learning from targets and the cost of accessing them. The model, calibrated to the empirical estimates and US innovation data, reveals that doubling the 2015 tech M&A rate would increase annual productivity growth by five hundredths of a percentage point, with the diffusion channel contributing 40% of this increase. Surprisingly, relaxing restrictions on post-acquisition knowledge appropriation yields negligible growth effects: reduced spillovers from acquired targets are offset by increased innovation using independent technologies as acquisition values rise. These findings underscore the

importance of incorporating diffusion effects and general equilibrium forces into antitrust policy for tech M&As.

Open Innovation and Ecosystem Disruption: Evidence from Tesla's Patent Pledge [with Zhengyi Yu, and Jing Kong]

We examine the causal effects of Tesla's unprecedented 2014 patent pledge on innovation diffusion and ecosystem development in the electric vehicle industry. Using a difference-in-differences design that compares citations to Tesla's pledged patents versus similar control patents before and after 2014, we find that the pledge significantly increased follow-on innovation by 70% overall. However, this effect is entirely driven by firms outside the traditional automotive sector—particularly battery and electronics companies—while incumbent automakers showed no significant response. The results are strongest for Tesla's battery technologies, which experienced a 218% increase in citation rates from non-automotive sectors post-pledge. Our findings suggest that patent pledges can effectively accelerate cross-sector knowledge diffusion and ecosystem development, but their impact depends critically on the competitive dynamics between pledge-making firms and potential adopters. These results have important implications for innovation policy and corporate strategy in emerging technology sectors.

WORK IN PROGRESS

Import-Related Foreign Knowledge Flow and Knowledge Spillover Entrepreneurship: Evidence from China [with Yu Cao, and Guiyou Guan]

This paper examines how trade liberalization influences cross-border knowledge flows and entrepreneurial innovation using China's 2001 WTO accession as a natural experiment. We employ a difference-in-differences strategy that exploits variation in import tariff reductions across technology classes to identify causal effects. To address the scarcity of citation data in early Chinese patents, I am developing a novel text-based measure of technological distance between Chinese and foreign frontier patents using natural language processing techniques. Preliminary analysis using available citation data at the IPC level reveals that import competition increases foreign knowledge adoption among Chinese firms, with heterogeneous effects across technology levels—high-tech sectors show stronger responses among firms patenting in triadic offices, while low-tech sectors exhibit effects primarily for domestically-focused firms. The paper will further investigate two key dimensions: first, whether these knowledge inflows stimulate foreign knowledge spillover entrepreneurship, measured by the rate of new firm entry building on foreign technology; and second, how firm-level characteristics such as absorptive capacity and financial constraints moderate these effects, revealing which types of firms benefit most from import-induced knowledge diffusion. This research contributes to our understanding of how trade policy shapes both the direction of innovation and the distribution of innovation capabilities across firms in emerging markets.

RESEARCH EXPERIENCE

2023 Research Assistant, University of Southern California, CA
Supervisor: Professor Wenhao Li

2018-2020 Research Assistant, University of Wisconsin-Madison, WI
Supervisor: Dr. Simeon Alder

PRESENTATIONS

2026 "Technology M&A and Knowledge Diffusion"
American Economic Association Annual Meeting, Philadelphia, PA (scheduled)

2025 "Open Innovation and Ecosystem Disruption: Evidence from Tesla's Patent Pledge"
Southern Economic Association 95th Annual Meeting, Tampa, FL (scheduled)

2024 "Technology M&A and Knowledge Diffusion"
Southern Economic Association 94th Annual Meeting, Washington, DC

PROFESSIONAL DEVELOPMENT

2023 NBER Entrepreneurship Research Boot Camp, Cambridge, MA

TEACHING EXPERIENCE (TEACHING ASSISTANT)

2025 **University of Southern California**
Econ 521 - International Macroeconomics and Financial Policy (Master), Spring
Econ 571 - Economics of Digital Platforms (Master), Spring

2024 Econ 205 - Principles of Macroeconomics (Undergraduate), Fall

2023 Econ 602 - Macroeconomic Theory I (PhD level), Fall

2021-2022 Econ 501 - Macroeconomic Analysis and Policy (Master)

2019 **University of Wisconsin-Madison**
Econ 475 - Economic Growth, Spring

AWARDS AND HONORS

2023, 2025 USC Summer Research Funding, University of Southern California

2020-2025 USC Dornsife College Graduate Merit Award, University of Southern California

2020 Honorable Mention Scholarship, University of Wisconsin-Madison

2018 Best Undergraduate Thesis, Huazhong University of Science and Technology

SKILLS

Languages: English (fluent), Mandarin (native)

Software: Stata, R, MATLAB, Python, LaTeX

REFERENCES

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Thomas Chaney
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Monica Morlacco
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Email: morlacco@usc.edu