NBER Innovation Research Boot Camp

Laura Shupp, MIT Sloan School of Management

Contact Information

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Recommendation Letter Writer

Scott Stern, sstern@mit.edu, 617.253.3053
MIT Sloan School of Management, 100 Main St. E62-476, Cambridge MA

Cover Letter

Dear Members of the Selection Committee,

Attached please find a statement explaining my interest in the Innovation Research Bootcamp, along with my CV and coursework.

Thank you for taking the time to review my application.

Sincerely,

Laura Shupp

Trade and Innovation in the Digital Economy: Why Should I Attend this Boot Camp?

Since the age of industrialization, economists have broadly equated manufacturing with economic growth, and the bulk of economic literature on both innovation and trade, disproportionately drawn from the experiences of the United States, India, and China, reflects this notion. Yet for countries that lack economies of scale, the question of how to innovate, and more precisely, how individuals and firms produce commercializable products, almost always leads to a cross-border issue. Be it the licensing-in of components for complex product assembly, the identification of foreign markets and their underlying standards to navigate technological adaptation, or the cross-border patenting required for market entry- all such questions require an additional layer of technological and market sophistication to successfully innovate and enter global trade networks.

Such tactical intricacies, often nested in emerging economy red tape, place most firms at a disadvantage in innovating in tangible goods, and by extension, limit their respective country's level of comparative advantage. However, when moving from tangible goods to *intangible* services, many of these constraints fall away. It is here that my dissertation research is focused and where I believe I can make the biggest contribution outlined in detail below.

My first research project, tentatively titled "What Services do Countries Trade? A Quantitative Exploration of Comparative Advantage in Digital Services" seeks to quantify comparative advantage across countries and service-specific sectors, with a focus on digital services (i.e., services traded remotely over an internet connection). To date, this will be the first paper to measure comparative advantage in services. It builds on the structural framework of Costinot, Donaldson, and Komunjer (2012), adapting their approach by constructing and replacing manufacturing-based measures of productivity with novel service-specific measures. A prerequisite contribution of this project is in the measurement itself. No comparative advantage paper exists because there was no systematic way to measure and compare trade flows in services until I built a concordance connecting three trade flow datasets to ISIC Rev. 4 and the IMF Extended Balance of Payments 2010. In addition to my core analysis, this project serves as an empirical demonstration of my concordance's broader utility, presenting descriptive statistics on patterns and trends in global services trade that have not been documented outside of UN reports.

My second research project moves from the country-industry level to the industry-firm level, using BEA data to characterize the inventive activity and export orientation of digital services firms. It builds on the empirical framework of Eaton, Kortum, and Kramarz (2011), adapting their anatomy of firm-level trade to the digital services context. Phenomenologically, this paper seeks to infer what firm innovation output looks like through trade flows in instances where digital innovation is not captured through traditional appropriability tools. The findings from my first project will inform the service sector selection and variation I adopt for this project. This too would be a first in characterizing firm-level digital trade flows and export orientation.

I want to attend the Innovation Research Bootcamp because the strand of trade literature I am contributing to is fundamentally about productivity, and my trade advisors keep pointing me toward the innovation and finance literature which in the spirit of Zvi Griliches, innovation scholars are best positioned to answer. Furthermore, while my questions are anchored in trade, using trade flows to infer innovative activity is fundamentally an innovation question (e.g., defensive vs. offensive patenting by sector; role of SEP and design patents). Finally, I want innovation to be my intellectual community, in one day working alongside the Glennon, Ganguli, and Frys of the world who care as much about emerging economy innovation as they do borders.

LAURA SHUPP

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INTERESTS

Economics of Innovation, International Trade, Digital Economics

EDUCATION

Massachusetts Institute of Technology 2022-Present
Ph.D. Candidate in Management, Sloan School of Management
Concentration: Technological Innovation, Entrepreneurship, & Strategic Mgmt.
Advisors: Scott Stern, David Atkin, Jose Vasquez

University of Paris 1: Pantheon-Sorbonne 2015
Masters in Mathematical Methods in Economics & Finance (MMEF)
Thesis: *An Egyptian Labor Market Assessment*

Penn State University, Schreyer Honors College 2013
B.S. in Economics
B.A. in International Politics
Minor in Middle East Studies

WORKING PAPERS

Jaffe, Adam B., Shupp, Laura B., and Tartari, Valentina. "*Real Effects of Academic Research Revisited.*" Forthcoming chapter in *The Economics of Science.*

WORKS IN PROGRESS

1. "Anatomy of International Trade in Digital Services"

2. "What Services do Countries Trade? A Quantitative Exploration of Comparative Advantage in Digital Services" (with Kazuatsu Shimizu)

3. "Economic Liberalization and Multinational Production: Evidence from the GCC"

4. "Do Large Language Models or Crowdsourced Models Produce More Bias: Evidence from AI Chatbots and Wikipedia" (with Zahra Rasouli)

PROJECTS

Middle East North Africa Patent (MENA) Data Project 2025-Present
Natural Bureau of Economic Research - Innovation Information Initiative (i3)
`https://iii.pubpub.org/`

GRANTS & FELLOWSHIPS

2025 Innovation Information Initiative Open Data Fellow, NBER 2025
Proposal: *Middle East and North Africa Patent Data Project*

National Science Foundation Graduate Research Fellowship (NSF GRFP) 2022
Field: Science Policy (1 of 2 awarded nationally)

MIT Sloan Ph.D. Fellowship 2022

U.S. Student Fulbright Fellowship, University of Bahrain 2015
Proposal: *Bahrain's Strategic Instruments: Firm Productivity in the ICT Sector*

Pantheon-Sorbonne Scholarship 2014

Paterno Fellow Study Abroad Scholarship to American University of Beirut 2009

AWARDS

Outstanding Graduate of the Last Decade Scholar Alumni Award 2022
Schreyer Honors College, Penn State University

OTHER RESEARCH

A System Dynamics Model for Higher Education Technology Transfer Analysis (with Osamah A. Almuyyad). Proceedings of the 2020 Conference of the Systems Dynamics Society (2020).

National Transformation in the Middle East, A Digital Journey (with Jean Louis Prevost, Yasmeen Salah, et al.). *Deloitte–Huawei Joint White Paper* (2017).

RELEVANT POSITIONS

Research Assistance

Research Assistant, Jacquelyn Pless 2023, 2024
Research Assistant, Adam Jaffe 2021
Research Assistant, Bhaven Sampat 2021
U.S. Student Fulbright Research Fellow, University of Bahrain 2015-2016

Research & Advisory: Academic Commercialization

Ministry of Education (Saudi Arabia): Roles: *Head, Research Analytics & Decision Support Unit; Strategy Consultant, Deputyship for Research & Innovation*, 2018-2021

Research & Advisory: Digital Economy

Ministry of Communications & Information Technology Saudi Arabia
Consultant, Center for Digital Entrepreneurship, 2021, 2022

Monitor Deloitte Middle East United Arab Emirates
Strategy Consultant, 2017-2019

Ministry of Labor & Tamkeen (i.e., private sector support authority) Bahrain
Consultant, Project: Labor Market Observatory, 2016–2017

Microsoft & UNDP Egypt
Consultant, Project: Egyptian Youth Employability Portal Analysis, 2015

International Telecommunication Union, United Nations Switzerland
Junior Analyst, Corporate Strategy Division, 2014

TEACHING

MIT Sloan School of Management
15.389: Global Entrepreneurship Lab; **TA for Simon Johnson**, Fall 2024
15.911: Entrepreneurial Strategy; **TA for Erin Scott**, Spring 2024 & Fall 2024
15.715: Entrepreneurial Strategy; **TA for Scott Stern**, Spring 2024

The Mack Institute for Innovation Management at The Wharton School
MGMT 892: Collaborative Innovation Program; **TA**, Fall 2021 & Spring 2022

University of Bahrain: *STATA 231*: Applied Statistics; **Lecturer**, Spring 2016

Penn State University: *Econ 412*: Labor Economics; **TA for Theodore Papageorgiou**, Fall 2012 & Spring 2013

PRESENTATIONS

1. *Ministry of Investment of Saudi Arabia* (2026): "Multinationals and Development: the Evidence Base for Policy."

2. *NBER Economics of Science Conference* (2025): "Real Effects of Academic Research Revisited." (presented by co-author)

3. *American Economic Association CSWEP Mentorship Workshop* (2024): "Eco-

nomic Liberalization and Multinational Production: Evidence from the GCC."

4. *ETH Zurich Energy Summer School* (2023): "National Innovative Capacity and the Invention & Diffusion of Water-Related Technological Innovation: A Patent Analysis."

5. *U.S. Department of State Alumni Thematic International Exchange Seminar* (2022): "The Adoption and Use of Green Innovation Metrics in Environmental Sustainability."

6. *INETxOECD Forecasting the Future for Sustainable Development Conference* (2021): "Tracking the Technological Composition of Saudi Arabia's Green Innovation Processes: A Patent Analysis on National Innovation Capabilities."

7. *International Conference of the System Dynamics Society PhD Colloquium & Work-in-Progress Sessions* (2020): "A System Dynamics Model for Higher Education Technology Transfer Analysis."

8. *Bahrain Office of the First Deputy Prime Minister Education Task Force* (2017): "Youth Employability: Employment for the Future."

9. *Fulbright Enrichment Seminar* (2016): "Critical Growth Factors of Small- to Medium-Sized Enterprises in ICT in Bahrain."

INVITED WORKSHOPS

NBER Economics of Science Conference	2025
NBER Digital Economics and AI Tutorial	2025
NBER Innovation Information Initiative Technical Working Group Meeting	2024
AEA CSWEP: Successfully Navigating Your Economics PhD Workshop	2024
Econometric Society: Africa Training Workshop in Development Economics	2024
ETH Zurich: Energy Technology, Policy and Politics Summer School	2023
U.S. Dept. State: Environmental Diplomacy's Impact on American Society	2022
OECD-INET: Forecasting for Policymaking	2021
University of Oxford: The Oxford Summer School in Economic Networks	2020
University of Sussex: European Forum for Studies of Policies for Research and Innovation Spring School *canceled due to Covid-19*	2020

SERVICE

Editorial Board, MIT Science Policy Review	2022-2024
Reviewer, Gender Equity in STEM Challenge, MIT Solve	2023

ADDITIONAL INFORMATION

Languages: English (native), Arabic & Spanish (working proficiency)
Affiliations: Licensing Executives Society

COURSEWORK

PhD: 15.838 Digital Economics & the Economics of Artificial Intelligence (Catherine Tucker); HBSDOC 4561 Empirical Studies of Innovation & Digitization (Shane Greenstein); 15.357 Economics of Ideas, Innovation, & Entrepreneurship (Pierre Azoulay & Scott Stern); 14.581-582 International Economics I & II (Arnaud Costinot & Jose Vasquez); 14.387 Applied Econometrics (Josh Angrist); 1 Year Microeconomics sequence (HKS) and Econometrics sequence (MIT)

Supplementary: Harvard Law School International Intellectual Property Transactions (Jacques de Werra); Drafting Patent License Agreements, Foundations in IP Valuation, AI Patenting in FinTech, Working with Customs Agencies Around the World (Licensing Executives Society CLP educational credit)