

Lei Xu

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Professional Experience

Toulouse School of Economics Post-Doc Researcher	2016 - 2019
Rotman School of Management, University of Toronto Visiting Scholar, Business Economics Unit	2014 - 2015
Stern School of Business, New York University Visiting Scholar, Business Economics Department	2012 - 2014

Education

McGill University Ph.D. in Economics	2010 - 2016
M.A. in Economics	2009 - 2010
B.A. Joint Honors in Economics and Finance	2005 - 2009

Research Fields

Industrial Organization, Applied Microeconomics

Working Papers

“**Technology Adoption in Input-Output Networks**” [Job Market Paper]
with Xintong Han (Concordia University)

“**What Makes Geeks Tick? A Study of Stack Overflow Careers**”
Accepted at Management Science
with Tingting Nian (UC Irvine) and Luis Cabral (NYU Stern)

“**Platform Competition with Local Network Effects**”

Works In Progress

“**Economic Cost of Weather and Air Pollution on Offline Retail**” Mantian Hu (Chinese University of Hong Kong) and Matthew Osborne (University of Toronto)

Conferences

2018

European Association for Research in Industrial Economics (EARIE), Athens

2017

The Economics Of Data Ownership Access And Trade, Brussels

NBER Summer 2017: Economics of IT and Digitization, Boston, MA

2016

Labor Market Adjustments to Digitization and the Future of Work, Mannheim

16th ZEW Conference on the Economics of Information and Communication Technologies, Mannheim

NBER Summer 2016: Economics of IT and Digitization, Boston, MA

2015

The Digital Economics Conference, Toulouse School of Economics
2015 INFORMS Annual Meeting Philadelphia, PA
NBER Summer 2015: Economics of IT and Digitization, Boston, MA
Platform Strategy Research Symposium, Boston, MA
Fourth Society of Labor Economists World Conference (SOLE), Montreal
13th International Industrial Organization Conference (IIOC), Boston

2014

12th International Industrial Organization Conference (IIOC), Chicago

2013

European Association for Research in Industrial Economics, Portugal

Services

The Digital Economics Conference, Toulouse School of Economics 2016 - 2019
Co-organizer for the annual conference

Job Market Paper

“Technology Adoption in Input-Output Networks” [[Click Here to Download](#)]

This paper investigates the role of network structure on technology adoption. In particular, we study how the network of individual agents can slow down the speed of adoption. We study this in the context of the Python programming language by modeling the decisions to adopt Python version 3 by software packages.¹ Python 3 provides advanced features but is *not* backward compatible with Python 2, which implies adoption cost. Moreover, packages form an input-output network through dependency on other packages in order to avoid writing duplicate code, and they face additional adoption cost from dependencies without Python 3 support. We build a dynamic model of technology adoption that incorporates the input-output network. With a complete dataset of package characteristics for historical releases and user downloads, we draw a complete input-output network and develop a new estimation method based on the dependency relationship. Estimation results show that the average cost of one incompatible dependency is one-third the cost of updating a package’s code. Simulations show that the input-output network contributes to 1.5 years of adoption inertia. We conduct counterfactual policies of promotion in subcommunities and find significant heterogeneous effects on the adoption rates due to differences in network structure.

References

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¹Packages are also known as libraries, (sub)routines, or modules in other programming languages.