

Last Revised: February 2021

Employment

Federal Reserve Bank of Philadelphia:

Economic Advisor and Economist, 2021-Present.

Senior Economist, 2019-2020.

University of Wisconsin-Madison, Department of Economics: Assistant Professor, 2014-2019.

Education

Ph.D., Economics, University of Chicago, 2008-2014.

B.A., Applied Mathematics, University of California, Berkeley, 2006.

Refereed Publications

1. The Evolution of Work in the United States (with Phai Phongthientham, Sebastian Sotelo, and Daniel Tannenbaum), *American Economic Journal: Applied Economics*, 2020, 12(2): 1-36.
2. How Wide Is the Firm Border? (with Ali Hortaçsu, Mary Jialin Li, and Chad Syverson), *Quarterly Journal of Economics*, 134(4): 1845-1882.
3. New Technologies and the Labor Market (with Phai Phongthientham, Sebastian Sotelo, and Daniel Tannenbaum), *Journal of Monetary Economics* (Carnegie-Rochester-NYU Conference Series), 2018, 97: 48-67.
4. Accounting for the Sources of Macroeconomic Tail Risks (with Thorsten Drautzburg and Zhenting Wang), *Economics Letters*, 2018, 165: 65-69.
5. How Important Are Sectoral Shocks?, *American Economic Journal: Macroeconomics*, 2017, 9(4): 254-280.
6. Vertical Integration and Input Flows (with Ali Hortaçsu and Chad Syverson), *American Economic Review*, 2014, 12(4): 1120-1148.
7. Materials Prices and Productivity, *Journal of the European Economic Association*, 2014, 12(3): 575-611.
8. Sources of Variation in Social Networks, *Games and Economic Behavior*, 2013, 79: 106-131.
9. Network Structure of Production (with Ali Hortaçsu, Jimmy Roberts, and Chad Syverson), *Proceedings of the National Academy of Sciences*, 2011, 108(13): 5199-5202.
10. The Topology of the Federal Funds Market (with Morten Bech), *Physica A*, 2010, 389(22): 5223-5246.

Research Papers/Work in Progress

1. Firm Technology Upgrading through Emerging Work (with Sarada), 2020.
2. Post-Merger Product Repositioning: An Empirical Analysis (with Alan Sorensen, Christopher

- Sullivan, and Wanjia Zhu), 2020, *Federal Reserve Bank of Philadelphia Working Paper # 20-36*.
3. The Geography and Job Tasks (with Phai Phongthientham, Sebastian Sotelo, and Daniel Tannenbaum), 2021.

Federal Reserve Bank of Philadelphia Publications

1. Reopening the Economy: What Are the Risks, and What Have States Done? (with Shigeru Fujita, Sreyas Mahadevan, Ryan Michaels, and Tal Roded) *Federal Reserve Bank of Philadelphia Research Brief*, 2020.
- 2 How Accurate Are Long-Run Employment Projections?, 2020, *Economic Insights*, 5(4): 12-18.

Older Research Papers

1. Quantifying the Benefits of a Liquidity-Saving Mechanism (with Antoine Martin and Jamie McAndrews), 2010, *Federal Reserve Bank of New York Staff Reports #447*.
2. The Welfare Effects of a Liquidity-Saving Mechanism (with Antoine Martin and Jamie McAndrews), 2010, *Federal Reserve Bank of New York Staff Reports #331*.

Discussions/Comments

- Review of “Financial and Macroeconomic Connectedness: A Network Approach to Measurement and Monitoring,” by Francis Diebold and Kamil Yilmaz. *Journal of Economic Literature*, 53(4): 1021-1023.
- Discussion of “Monetary Policy through Production Networks: Evidence from the Stock Market,” by Michael Weber and Ali Ozdagli, presented at the 2017 ASSA Meetings.
- Discussion of “Cascades and Fluctuations in an Economy with an Endogenous Production Network,” by Mathieu Taschereau-Dumouchel, presented at the 2017 ITAM-PIER Conference on Macroeconomics.
- Discussion of “Financial Networks over the Business Cycle” by Alexandr Kopytov, presented at the 2019 Federal Reserve Board Conference on the Interconnectedness of Financial Systems.
- Discussion of “Structural Change Within Versus Across Firms: Evidence from the United States” by Xiang Ding, Teresa Fort, Stephen Redding, and Peter Schott, presented at the 2019 NBER Conference on Mega-Firms and Changes in Market Power.
- Discussion of “Automation, Spatial Sorting, and Job Polarization” by Jan Eeckhout, Christoph Hedtrich, and Roberto Pinheiro, presented at the 2020 ASSA Meetings.
- Discussion of “Quantifying the Impact of AI on Productivity and Labor Demand: Evidence from United States Census Microdata” by Dean Alderucci, Lee Branstetter, Ed Hovy, Andrew Runge, and Nikolas Zolas, presented at the 2020 ASSA Meetings.
- Panelist at BLS conference on “Automation and the Labor Force: Data Collection Strategies,” June 24, 2020.

Presentations by Year

2012: 2012 Midwest Macro Meetings; Research Data Center Annual Conference, Chicago FRB;

10th Annual International Industrial Organization Conference

2013: 2013 Midwest Macro Meetings; Networks in Macroeconomics and Finance Conference at the BFI; EIEF Doctoral Workshop in Economic Theory and Econometrics.

2014: Columbia, Federal Reserve Bank of New York, Federal Reserve Board, Northwestern, Pennsylvania, UC-Berkeley, UCLA, UW-Madison

2015: Federal Reserve Bank of Richmond, Mannheim, UW-Milwaukee, Vanderbilt

2016: University of Nebraska, University of Connecticut

2017: ASSA Meetings, Cornell University, Carnegie-Rochester-NYU Conference, Sabanci University, Tinbergen Institute Conference on International Production Networks

2018: Virginia Tech, 2018 Society for Institutional & Organizational Economics Meeting, 2018 Midwest Macro Meetings, Society for Economic Dynamics, ESRC/Cenmap Conference on the Empirical Analysis of Contracting and Bargaining, NBER Summer Institute (CRIW); University of British Columbia, University of Memphis, Brigham Young University, Federal Reserve Bank of Philadelphia, Federal Reserve Bank of Richmond, Washington University of St. Louis Mini-Conference, Empirical Management Conference at Harvard Business School

2019: US Census Bureau, Federal Reserve Bank of Atlanta, Society of Economic Dynamics, UT-Austin Workshop on Trade and Business Cycles, De Paul University, Bank of Mexico, Indiana University

2020: Drexel University, Labor Markets and Public Policy Workshop at Clemson University, Federal Reserve System Applied Microeconomics Conference, University of Western Australia, Uppsala University

2021: Université du Québec à Montréal (scheduled), Harvard Kennedy School Growth Lab (scheduled)

Teaching Experience

Spring, 2015-2019: Industrial Organization and Imperfect Competition (Undergraduate)

Spring, 2016-2019: Macroeconomic Theory (Graduate)

Fall, 2014-15, Spring 2017-19: Topics in Macroeconomics (Graduate)

Professional Activities

Program committee for the Spring 2018 Midwest Macro Meetings

Program committee for the 2019, 2020 (postponed), 2021 Society for Economic Dynamics Meetings

External Grants

Washington Center for Economic Growth: \$43,000, April 2016 to March 2018. Joint with Daniel Tannenbaum and Sebastian Sotelo.

Russell Sage Foundation: \$114,772, July 2018 to June 2020. Joint with Daniel Tannenbaum and Sebastian Sotelo.