

# Jacob Howard

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## Education

Ph.D. Economics, University of Colorado at Boulder, May 2020

*Dissertation: Essays on Endogenous Production-Network Formation and the Consequences of Globalization*

*Primary Advisor: Wolfgang Keller, Committee: Jeronimo Carballo, Keith Maskus, Sergey Nigai*

M.A. Economics, University of Colorado at Boulder, 2016.

M.A. Economics, University of Memphis, 2014.

B.A. Economics, International Studies and Economics, University of Memphis, 2012.

## Fields of Research

International Trade, Network Economics, Wages and Wage Inequality, Environmental Economics

## Employment

MITRE, 2020-Present

Lead Economist: Transportation Performance and Economic Analysis

University of Colorado, Boulder 2014-2020

Instructor and Teaching Assistant

Research Assistant: McGuire Center for International Studies

NBER, 2016-2018

Research Assistant, NSF Grant: Trading, Institutions, Product Innovation, and Entrepreneurship

## Open Research Projects

The Impact of Offshoring and Outsourcing Firm Behaviors on Labor Market Outcomes

*Census Project hosted at the Rocky Mountain Research Data Center*

*This project proposes to answer the following questions. What role do supply chains play in shaping wage inequality? How do these supply chains vary by firm productivity levels, and is there a systematic differential response of these supply chains to an international trade shock? If wages are determined by supply chains, this implies that there will be nominal wage consequences for workers in all sectors of the importing economy. How much do changes, due to trade shocks, in firm-level supply-chains spillover into non-import competing sectors? Within all sectors are there heterogeneous responses to trade shocks that vary by firm size and what are the implications of this heterogeneity?*

## Working Papers

Endogenous Production Networks and the Labor Market Consequences of Globalization (*Job Market Paper*)

*This paper studies the interaction of labor-market frictions and endogenous production-network formation in firms' decisions on employment, sourcing and production, within the context of trade policy. I construct a quantitative general-equilibrium model featuring worker-firm and firm-to-firm matching in the production process. I calibrate the model and investigate how trade policy and labor-market efficiency affect production-network density, trade flows, unemployment and wage inequality. The model shows a 1.5% decrease in relative labor-market frictions in one country can lead to a 0.1% decrease in the partner country's relative number of downstream production-network linkages. I explore how heterogeneity in firm-to-firm matching costs determines the effect of a trade shock on wage inequality. I show that a protectionist tariff by one country leads to increases in domestic long-run*

*unemployment and real wages. Examining these channels separately leads to sizable quantitative and qualitative changes in the predicted outcomes of trade policy.*

#### Regional Environmental Quality and International Trade: The Role of Production Networks

*Joint work with Doyoung Park, University of Arkansas Fayetteville*

*This paper studies the interaction between trade liberalization and firm production networks in shaping spatial differences in environmental quality within countries. We first analyze the effect of inter-firm trade in intermediate goods on the level of total regional emissions and average emission intensities. Second, we study the effect of trade liberalization on the spatial distribution of firms within countries in a setting with firm-to-firm production networks. We find that regions with relative proximity to foreign markets attract more firms as international trade barriers diminish. This leads to higher total emissions in such regions due to agglomeration forces, whereas spatial selection together with production networks leads to a decline in average emission intensities.*

## Teaching

University of Colorado, Boulder 2016-2020

Courses Taught: Principles of Microeconomics, Intermediate Microeconomics, Principles of Macroeconomics

## Awards

University of Colorado at Boulder:

Morris E. Garnsey Fellowship in Economics, August 2018

Sieglinde Talbott Haller Economics Scholarship, September 2017

Leslie Whittington Memorial Fellowship for Excellence in Economics, May 2016

Yordon Prize in Microeconomics, May 2016

## Conference and Seminar Presentations

"Labor-Market Frictions and Endogenous Production-Network Formation", University of Memphis Economics Department (2019)

"Predicting Destination Firm Size in the Commodity Flows Survey", Rocky Mountain Research Data Center Meeting (2018)

"Supply Chains, Wages and International Trade", Southern Economic Association Annual Meeting (November 2017)

## Software Skills

Julia, Matlab, Python, R, STATA

Use of Summit supercomputer at University of Colorado at Boulder

## References

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