Levi G. Crews

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Contact Information

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Personal

Citizenship USA
Date of birth 8 February 1996

Research Fields

Macroeconomics, Spatial Economics, International Trade

Education

University of Chicago, Chicago, Illinois USA

Ph.D. in Economics 2017 – 2023 (expected)
M.A. in Economics 2019

Placement

Co-directors: Ufuk Akcigit, uakcigit@uchicago.edu, +1 (773) 702-0433
Manasi Deshpande, mdeshpande@uchicago.edu, +1 (773) 702-8260
Coordinator: Kathryn Falzareno, kfalzareno@uchicago.edu, +1 (773) 702-3026

References

Esteban Rossi-Hansberg (Chair)
Glen A. Lloyd Distinguished Service Professor
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Jonathan I. Dingel
Associate Professor
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Fernando Alvarez
Charles F. Grey Distinguished Service Professor
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Felix Tintelnot
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Duke University, Durham, North Carolina USA

B.Sc. in Economics (High Distinction), B.A. in Mathematics, *Summa Cum Laude*, 2017

Working Papers

"A Dynamic Spatial Knowledge Economy" (**Job Market Paper**)

Cities have long been thought to drive economic growth. Despite this, analyses of spatial policies have largely ignored the effects of such policies on growth. In this paper, I develop a spatial endogenous growth model in which heterogeneous agents make forward-looking migration decisions and human capital investments over the life cycle. Local externalities in the human capital investment technology drive both agglomeration and growth. I show that, along a balanced growth path, the growth rate depends on the spatial distribution of human capital, making it sensitive to spatial policies. I calibrate the model to data on U.S. metropolitan areas and show that it can rationalize the faster wage growth of workers in big cities, as well as other key patterns in life-cycle wage profiles, migration decisions, and city characteristics. Because workers accumulate human capital at different rates depending on where they live, the model provides an environment in which spatial policy can not just attract skilled workers, but produce them, too. I find that policies that further concentrate skilled workers in large cities are growth-enhancing.

"Agriculture, Trade, and the Spatial Efficiency of Global Water Use" (with T. Carleton & I. Nath)

Over 90% of global water use occurs in agricultural production, which is subject to two pervasive distortions: (i) incomplete property rights for farmers accessing water and (ii) subsidies, taxes, and tariffs affecting agricultural output. This paper combines a rich collection of global geospatial data with a dynamic spatial equilibrium model to quantify the impact of agricultural and trade policies on regional water scarcity and welfare. In the data, we show that water-intensive crops concentrate in water-abundant locations, implying a strong role for comparative advantage in governing global water use, though a small number of regions with very water-intensive production are losing water rapidly over time. The model captures production, consumption, and trade in agriculture across many countries and crops, as well as the dynamic evolution of local water stocks as farmers extract water from a common pool. We calibrate the model to match observed patterns of agricultural production and hydrological trends, and will use it to compare the existing allocation to the global planner's undistorted steady state and a hypothetical scenario with no international trade in agriculture.

Work In Progress

"Does Eating Local Reduce Emissions?" (with I. Nath)

This paper examines the conventional wisdom that promoting consumption of locally-produced food reduces greenhouse gas emissions. We start by exploring the partial equilibrium consequences of a single consumer's sourcing decisions using existing data on emissions from shipping, along with a new high-resolution global spatial dataset containing scientific estimates of crop-wise emissions from agricultural production. Initial exploration suggests that the spatial variation in production emissions from agriculture is substantial relative to the emissions from shipping. Next, we will use a global model of production, consumption, and trade in agriculture to investigate the general equilibrium consequences of varying the level of globalization. We plan to use the model to compare global agricultural emissions under existing policy to a scenario that imposes autarky on all local regions, and to an alternative scenario with much greater openness to trade.

"Trade Policy and Food Security" (with I. Nath)

This paper investigates how trade policy affects stability in food supply and food prices. We show that openness to trade exerts two competing forces on volatility: (i) diversifying supply across many countries reduces the exposure of local consumers to domestic or regional shocks and (ii) relying on imports for consumption of a necessary good creates vulnerability to geopolitical risk or trade barriers erected in response to instability. We use global panel data on agricultural production, prices, trade flows, trade policy, and weather to examine how trade barriers respond endogenously to agricultural supply shocks and explore the domestic and international transmission of price fluctuations. We plan to use a model of production, consumption, and trade in agriculture to study optimal trade policy for promoting food supply stability in countries facing endogenous trade barriers and stochastic shocks to productivity.

"Predicting Trade Elasticities in the US-China Trade War" (with J. Dingel, S. Heise, & F. Tintelnot)

Presentations

2022 LACEA LAMES, BFI Coase Project, UChicago (Capital Theory, Trade & Spatial working group, Applied Macro Theory lunch)
2021 UChicago (Capital Theory, Trade & Spatial working group, Applied Macro Theory lunch)

Research Assistance

University of Chicago

J. Dingel and F. Tintelnot	Jan. 2019 – June 2020
H. Uhlig and D. Krüger	Feb. 2019 – June 2020
B. Neiman and J. Vavra	May 2019 – Nov. 2019

Teaching

University of Chicago

TA	Spatial Economics (PhD)	E. Rossi-Hansberg	Winter 2022
TA	Theory of Income III (PhD)	F. Alvarez	Spring 2021
TA	International Trade (U)	F. Tintelnot	Winter 2021
TA	Managing the Firm in the Global Economy (MBA)	J. Dingel	Winter 2020–21
TA	Financial Markets in the Macroeconomy (PhD)	V. Guerrieri	Spring 2020
TA	International Financial Policy (MBA)	R. Kekre	Spring 2020

Duke University

TA	Intermediate Macroeconomics (U)	M. Connolly	Fall 2016–Spring 2017

Honors and Awards

Margaret G. Reid Dissertation Fellowship	University of Chicago Economics Department	2022–23
Data Acquisition Grant	University of Chicago Economics Department	2019
Travel Grant	Princeton Initiative: Macro, Money and Finance	2019
Neubauer Fellowship	University of Chicago Social Sciences Division	2017–22
Davies Fellowship	Duke University Economics Department	2016
Student Marshal	Duke University	2016
Phi Beta Kappa	Duke University	2016

Service

Cohort Representative	2020–22
Coordinator: Trade & Spatial working group	2020–21
Peer Mentor	2019–21
Coordinator: Applied Macro Theory lunch	2019–20

Referee

Journal of Political Economy, *Review of Economics and Statistics*

Technical Skills

Python, Julia, Matlab, Stata, LaTeX, Unix, Make