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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

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Coordinator: Kathryn Falzareno, kfalzareno@uchicago.edu, +1 (773) 702-3026

References

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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) TA Theory of Income III (PhD) TA International Trade (U) TA Managing the Firm in the Global Economy (MBA) TA Financial Markets in the Macroeconomy (PhD) TA International Financial Policy (MBA)		<ul><li>E. Rossi-Hansberg</li><li>F. Alvarez</li><li>F. Tintelnot</li><li>J. Dingel</li><li>V. Guerrieri</li><li>R. Kekre</li></ul>	Winter 2022 Spring 2021 Winter 2021 Winter 2020–21 Spring 2020 Spring 2020	
	Duke University				
	TA Intermediate Macroeconomics (U)		M. Connolly	Fall–Spring 2017	
Honors and Awards	Margaret G. Reid Dissertation Fellowship Data Acquisition Grant Travel Grant Neubauer Fellowship Davies Fellowship Student Marshal Phi Beta Kappa	University of Chicago Economics Department University of Chicago Economics Department Princeton Initiative: Macro, Money and Finance University of Chicago Social Sciences Division Duke University Economics Department Duke University Duke University		partment :: and Finance :: s Division :: nent ::	2022–23 2019 2019 2017–22 2016 2016 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, IATEX, Unix, Make				