

José-Luis Cruz

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Office Contact Information

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Education

Princeton University Ph.D. Candidate in Economics	<i>2016-present</i> (Expected May 2022)
Princeton University M.A. in Economics	<i>2016-2018</i>
Instituto Tecnológico Autónomo de México (ITAM) M.A. in Economic Theory	<i>2015-2016</i>
Instituto Tecnológico Autónomo de México (ITAM) B.A. in Economics, highest honors	<i>2009-2014</i>

References

Esteban Rossi-Hansberg Department of Economics University of Chicago earossih@uchicago.edu (650) 714-2093	Ezra Oberfield Department of Economics Princeton University edo@princeton.edu (609) 258-3846
Stephen Redding Department of Economics Princeton University reddings@princeton.edu (609) 258-4016	

Fields

Primary	International Trade, Environmental Economics
Secondary	Macroeconomics

Global Warming and Labor Market Reallocation

Global warming is a phenomenon expected to have heterogeneous effects across geographic locations and economic sectors. To assess its welfare consequences and the reallocation of workers across different markets, I develop a dynamic economic model with the patterns of structural transformation and spatially distinct labor markets facing varying exposure to warming damages on productivity. I incorporate trade of goods and migration across regions and industries, to account for the ability of agents to adapt to this phenomenon, and non-homothetic preferences, to reproduce the reallocation of economic activity when income grows. To measure mobility frictions, I collect data from censuses and population surveys, and employ methodologies from the demographic literature to provide novel estimates of worldwide bilateral migration flows. To identify the non-linear effects of temperature on productivity, I exploit weather fluctuations in a long panel and find that agricultural productivity in the hottest countries declines by 6% when temperature rises 1°C. The model, quantified for 6 sectors and 287 countries and subnational units, suggests that workers in agriculture face welfare losses three times larger than the average worker and that employment in this sector increases. Although hot regions might reduce the production of agricultural goods and import them from less affected locations, sectoral specialization is mainly driven by the shift in consumption expenditure towards the subsistence goods, as warming reduces global income.

Other Papers

The Economic Geography of Global Warming (with Esteban Rossi-Hansberg)

NBER Working Paper No. 28466, Submitted

Global warming is a worldwide and protracted phenomenon with heterogeneous local economic effects. In order to evaluate the aggregate and local economic consequences of higher temperatures, we propose a dynamic economic assessment model of the world economy with high spatial resolution. Our model features a number of mechanisms through which individuals can adapt to global warming, including costly trade and migration, and local technological innovations and natality rates. We quantify the model at a $1^\circ \times 1^\circ$ resolution and estimate damage functions that determine the impact of temperature changes on a region's fundamental productivity and amenities depending on local temperatures. Our baseline results show welfare losses from global warming as large as 20% in parts of Africa and Latin America but also high heterogeneity across locations, with northern regions in Siberia, Canada, and Alaska experiencing gains. We find that global warming will increase spatial inequality, since estimated welfare losses across locations are negatively correlated with current real income and welfare. There is large uncertainty about average welfare effects, but much less uncertainty about the spatial distribution of losses. Our quantification points to migration and, to a lesser extent, innovation as important adaptation mechanisms. We use the model to assess the impact of carbon taxes, abatement technologies, and clean energy subsidies. Carbon taxes delay consumption of fossil fuels and help *flatten the temperature curve* but are much more effective when an abatement technology is forthcoming.

Work in Progress

Optimal Environmental Policy to Mitigate Global Warming

The Spatial, Industrial and Dynamic Economic Response of Climate Shocks

Other Writings

Assessing the Aggregate and Spatial Economic Impact of Global Warming, *voxEU* 2021

Adaptation and the Unequal Losses from Climate Change, *Becker Friedman Institute Insights* 2021

Research Experience

Research Assistant, Prof. Esteban Rossi-Hansberg	2020
Research Assistant, Prof. Ezra Oberfield	2018-2019
Research Assistant, Prof. Arlene Wong	2018-2019
Research Assistant, Prof. Richard Rogerson	2017

Teaching Experience

Teaching Assistant, ECO 311: Macroeconomics: A Mathematical Approach, Princeton University	2019-2021
Teaching Assistant, WWS 538: Urban Economics, Princeton University	2020
Teaching Assistant, ECO 301: Macroeconomics, Princeton University	2020
Teaching Assistant, ECO 353: International Monetary Economics, Princeton University	2018
Lecturer, ECO 12201: Theory and Policy in Monetary Economics, ITAM	2017

Awards and Fellowships

International Economics Section Summer Fellowship, Princeton University	2019-2021
Princeton Energy and Climate Scholars, Princeton University	2020-2021
International Economics Section Annual Fellowship, Princeton University	2020
Alliance Graduate Summer School Scholarship, Columbia University	2019
Avinash Dixit Prize, Princeton University <i>Outstanding Academic Achievement in International Economics</i>	2019
Honorary Mention in the 2015 Citi-Banamex Economics Contest	2016
Second Place in the XXVII National Tlacaélel Contest of Economic Consulting	2016
Honorary Mention in the XXI exITAM Economics Department Research Contest	2016

Professional Activities and Previous Work Experience

Refereeing

Journal of Environmental Economics and Management

Conferences

North American Meeting of the Urban Economics Association (2021), ITAM Alumni Conference (2021), Institute of the National Housing Fund for Workers (2021), Workshop in Sustainable Development Columbia University (2019)

Previous Work Experience

Payment Systems Analyst, Central Bank of Mexico	2014-2016
Policy design of ATM pricing system and e-commerce market conditions	
Public Finance Analyst, Evercore Partners Mexico	2013-2014
Financial diagnostic, debt restructure and fiscal policies for subnational governments	

Additional Information

Citizenship	Mexican
Sex	Male
Date of Birth	August 31, 1991

Last Updated: November 10, 2021