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EDUCATION

Ph.D. in Economics, Universitat Autònoma de Barcelona, expected 2018

DISSERTATION: *Income and Population Across Space and Time*

THESIS COMMITTEE

Nezih Guner (chair)
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Jesús Fernández-Villaverde
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Tim Kehoe
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M.A. in Economics, Universitat Autònoma de Barcelona, 2014

B.S. in Economics, University of Missouri–Saint Louis, 2010

RESEARCH VISITS

University of Pennsylvania, visiting scholar, May and September 2017

University of Minnesota, visiting scholar, October 2017

RESEARCH INTERESTS

Macroeconomics, Economic Geography, Trade, Development

RESEARCH PAPERS AND WORKS IN PROGRESS

The Globe as a Network: Geography and the Origins of the World Income Distribution
(Job Market Paper)

Demographic Transitions Across Time and Space
(with Nezih Guner and Jesús Fernández-Villaverde)

Trade Across Stages of Development
(with Juan Carlos Conesa, Pau S. Pujolàs and Gajendran Raveendranathan)

TEACHING EXPERIENCE

- 2017 Macroeconomics II (Graduate), Universitat Autònoma de Barcelona
Teaching Assistant for Prof. Luis Rojas
- 2016 Macroeconomics II (Graduate), Universitat Autònoma de Barcelona
Teaching Assistant for Prof. Nezhil Guner
- 2016 Intro to Matlab (Graduate), Barcelona Graduate School of Economics
- 2016 Matlab Refresher (Graduate), Universitat Autònoma de Barcelona
- 2015 Macroeconomics II (Graduate), Universitat Autònoma de Barcelona
Teaching Assistant for Prof. Nezhil Guner
- 2015 Intro to Matlab (Graduate), Universitat Autònoma de Barcelona

PROFESSIONAL EXPERIENCE

- 2013-17 Research Assistant for Nezhil Guner, MOVE, UAB
- 2011-12 Human Capital Analyst, ICF International, Washington, D.C.
- 2005-09 Psychological Operations Sergeant, U.S. Army
- 2004-05 Business English Teacher, International Communication Institute, Guadalajara, Mexico

PRESENTATIONS

- 2018 NBER Trade and Geography Conference.*
- 2017 SAEe Barcelona. EWMES Barcelona. Minneapolis Fed. SAET, Faro. University of Pennsylvania. Philadelphia Fed. III Winter Macroeconomics Workshop in Bellaterra.
- 2016 North American Meetings of the Regional Science Association, Minneapolis. McMaster University. EEA meetings, Geneva. Université de Toulouse. ENTER Jamboree, Madrid. Barcelona GSE PhD Jamboree. Workshop on Dynamic Macroeconomics, Vigo. Stockholm University.

Discussions: ENTER Jamboree, Mannheim, 2015. Barcelona GSE Ph.D. Jamboree, 2015.

* *scheduled*

PROFESSIONAL SERVICE

Organized Barcelona GSE Ph.D. Jamboree (2016). Organized Student Workshop series at Universitat Autònoma de Barcelona (2014-2015). Student coordinator of ENTER network at Universitat Autònoma de Barcelona (2014-2015).

SCHOLARSHIPS, HONORS AND AWARDS

- 2014-18 La Caixa Severo Ochoa Doctoral Fellowship
- 2012-14 Fellowship Formació de Personal Investigador - UAB

- 2011 Simon Kuznets Award, best undergraduate quantitative economics paper
- 2009 First Place, PSYOP Language Biathlon
- 2007 Meritorious Service Medal (for outstanding service as an Arabic-English interpreter and cultural analyst) (U.S. Army)
- 2007 Army Achievement Medal (for role in developing a new strategic communications method) (U.S. Army)
- 2006 Distinguished Honor Graduate, U.S. Army Psychological Operations Advanced Individual Training

ADDITIONAL EDUCATION

Diploma in Modern Standard Arabic

John F. Kennedy Special Warfare Center and School, 2006

Teaching English as a Foreign Language (TEFL) Certificate

International Teacher Training Organization, Guadalajara, Mexico, 2004

LANGUAGES

English (native), Spanish (fluent), Arabic (fluent), Catalan (fluent), Turkish (basic)

RESEARCH PAPER ABSTRACTS

The Globe as a Network: Geography and the Origins of the World Income Distribution
(Job Market Paper)

How important are falling transport costs for patterns of population and income growth since 1000 CE? To answer this question, I build a quantitative dynamic spatial model with an agricultural and a non-agricultural sector, and endogenous fertility, migration, innovation and technology diffusion. In this model there exists an endogenous threshold for global transport costs, which is characterized by a simple network statistic. If transport costs are above this threshold, the world converges to a Malthusian steady state. If transport costs fall below this threshold, the world economy enters a process of sustained growth in population and income per capita. Taking this model to the data, I divide the globe into 2,249 3 degree by 3 degree quadrangles. I assign each location an agricultural potential determined by exogenous climate and soil characteristics. I infer bilateral transport costs by calculating the cheapest route between each pair of locations given the natural placement of rivers, oceans and mountains. I calibrate the model so that in the year 1000 the world is in a Malthusian steady state. I then drop the cost of water and land transport exogenously in a way that is consistent with historical evidence and track the endogenous evolution of population and income until the year 2000. Qualitatively, this exercise generates slow but accelerating growth in both population and income per capita for the first 800 years, an abrupt takeoff in growth after 1800 CE with Europe in the lead, and a large increase in the dispersion of income per capita after 1800 CE. Quantitatively, the model accounts for 55% of the variation in population density across 10 major regions in 1000 CE, 44% of the variation in income per capita across regions in 1800 CE, and is able to generate 43% of the overall

dispersion in income per capita in 2000 CE.

Demographic Transitions Across Time and Space
(with Nezh Guner and Jesús Fernández-Villaverde)

The demographic transition, i.e., the move from a regime of high fertility/high mortality into a regime of low fertility/low mortality, is a process that almost every country on Earth has undergone or is undergoing. Are all demographic transitions equal? Have they changed in speed and shape over time? And, how do they relate to economic development? To answer these questions, we put together a data set of birth and death rates for 188 countries that spans more than 250 years. Then, we use a novel econometric method to identify start and end dates for transitions in birth and death rates. We find, first, that the average speed of transitions has increased steadily over time. Second, we document that income per capita at the start of these transitions is more or less constant over time. Third, we uncover evidence of *demographic contagion*: the entry of a country into the demographic transition is strongly associated with its geographic neighbors having already entered into the transition even after controlling for other observables. Next, we build a model of demographic transitions that can account for these facts. The model economy is populated by different locations. In each location, parents decide how many children to have and how much to invest in their human capital. There is skill-biased technological change that diffuses slowly from the frontier country, Britain, to the rest of the world.

Trade Across Stages of Development
(with Juan Carlos Conesa, Pau S. Pujolàs and Gajendran Raveendranathan)

In this paper we document the evolution of trade between Spain and the United Kingdom since 1848. In order to do so, we create a correspondence between older trade records and modern Harmonized System data. We find that the share of agricultural goods has decreased as the number of manufacturing varieties has increased dramatically during the period, with the transformation happening earlier Spanish imports than exports. We build a dynamic, two-country model to study how trade helps poor, non-developed countries to grow.