MATT DELVENTHAL

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EDUCATION

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

DISSERTATION: *Income and Population Across Space and Time*

THESIS COMITTEE

Nezih Guner (chair)	**Jesús Fernández-Villaverde**	**Tim Kehoe**
CEMFI	University of Pennsylvania	University of Minnesota
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Visiting scholar at University of Pennsylvania, May and September 2017
Visiting scholar at University of Minnesota, October 2017

M.A. in Economics, Universitat Autònoma de Barcelona**,** 2014

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

RESEARCH INTERESTS

Macroeconomics, Economic Geography, Trade, Development

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. Nezih Guner
2016	Remedial 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. Nezih Guner
2015	Intro to Matlab (Graduate), Universitat Autònoma de Barcelona

PROFESSIONAL EXPERIENCE

2013-17   Research Assistant for Nezih 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

RESEARCH PAPERS AND WORKS IN PROGRESS

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 Nezih 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.

PRESENTATIONS

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. 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).

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

SCHOLARSHIPS, HONORS AND AWARDS

2014-18	La Caixa Severo Ochoa Doctoral Fellowship
2012-14	Fellowship Formació de Personal Investigador - UAB
2011	Simon Kuznets Essay Award for 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

LANGUAGES

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