Javier Barbero Jiménez
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PERSONAL AND CONTACT INFORMATION

Name: Javier Barbero Jiménez
Gender: Male
Citizenship: Spanish
Birth Date: 4th January, 1988
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CURRENT POSITIONS

European Commission, Joint Research Centre (JRC)   **2016 - Present**
Contract Agent

- Territorial Development Unit of the Growth & Innovation Directorate (JRC.B.3).

- Economic Analyst at the Regional Economic MOdeling (REMO) team.

- Modeller of the RHOMOLO model.

- Leading the exploratory research project: "Heterogeneous Firms General Equilibrium Model".

PAST POSITIONS

Universidad Autónoma de Madrid   **2012 - 2015**
Ph.D. in Economics Student fellow (Spanish Ministry of Education)

- Department of Economic Analysis: Economic Theory and Economic History.

- Conducting teaching and research activities.

VISITING POSITIONS AND RESEARCH STAYS

Center of Operations Research (CIO). Universidad Miguel Hernandez de Elche (UMH)   **04/2016**

- Two weeks short research stay working on the research paper: *Testing the consistency and feasibility of the standard Malmquist-Luenberger index: Environmental productivity in world air emissions*, published in *Journal of Environmental Management*.

The London School of Economic and Political Science (LSE)   **01/2015 - 04/2015**

- Pre-doctoral stay under the supervision of Professor Andrés Rodriguez-Pose.

- Working in the research paper: *Does institutional quality matter for trade? Institutional conditions in a sectoral trade framework*, published in *World Development*.

École des Sciences de Gestion, Université du Québec à Montréal (ESG-UQAM)   **01/2013 - 04/2013**

- Pre-doctoral stay under the supervision of Professor Kristian Behrens.

- Working in the research paper: *Industry Location and Wages: The Role of Size and Accessibility in Trading Networks*, published in *Regional Science and Urban Economics*.

EDUCATION

Ph.D. in Economics 2012 - 2016
Universidad Autónoma de Madrid (UAM)

- Thesis title: *Economic Geography, Network Infrastructure and Institutions: Implications for Agglomeration and Trade*.

- Thesis supervisors: José L. Zofío (UAM) and Inmaculada C. Álvarez (UAM).

- Date: 22nd January 2016.

- Thesis committee: Jacques François Thisse (CORE), Gianmarco Ottaviano (LSE), Diego Puga (CEMFI), Elisenda Paluzie (UB), Carlos Llano (UAM).

- Grade: Cum Laude by Unanimity.

MSc. International Economics 2010 - 2012
Universidad Autónoma de Madrid (UAM)

- Dissertation title: *The Multiregional Core-periphery Model: The Role of the Spatial Topology*

- Graded with distinction.

B.A. Degree in Economics 2006 - 2010
Universidad Autónoma de Madrid

- Award for the best academic record of the undergraduate of the academic year 2009/2010.

RESEARCH INTERESTS

Economic Theory, Spatial Economics, New Economic Geography, Trade, Regional and Urban Economics, Econometrics, Spatial Econometrics, Efficiency and Productivity. Computational Economics.

PUBLICATIONS

Existing Publications

9. Barbero, Javier and Rodriguez-Crespo, Ernesto, (2018) **The effect of broadband on European Union trade: A regional spatial approach**, The World Economy, Volume 41 (11), 2895-2913. https://doi.org/10.1111/twec.12723

8. Edquist, Charles; Zabala-Iturriagagoitia, Jon Mikel; Barbero, Javier; Zofío, Jos? L., (2018) **On the meaning of innovation performance: Is the synthetic indicator of the Innovation Union Scoreboard flawed?**, *Research Evaluation*, Volume 27(3), 196–211. https://doi.org/10.1093/reseval/rvy011.

7. Barbero, Javier.; Behrens, Kristian; Zofío, José L., (2018) **Industry location and wages: The role of market size and accessibility in trading networks**, *Regional Science and Urban Economics*, Volume 71, pp. 1-24. https://doi.org/10.1016/j.regsciurbeco.2018.04.005

6. Álvarez, Inmaculada C.; Barbero, Javier; Rodríguez-Pose, Andrés; Zofío, José L., (2018) **Does Institutional Quality Matter for Trade? Institutional Conditions in a Sectoral Trade Framework**, *World Development*, Volume 103, pp. 72-87. https://doi.org/10.1016/j.worlddev.2017.10.010

5. Aparicio, Juan; Barbero, Javier; Kapelko, Magdalena; Pastor, Jesús T. and Zofío; José L., (2017) **Testing the consistency and feasibility of the standard Malmquist-Luenberger index: Environmental productivity in world air emissions**, *Journal of Environmental Management*, Volume 196, pp 148-160. http://dx.doi.org/10.1016/j.jenvman.2017.03.007

4. Álvarez, Inmaculada C.; Barbero, Javier and Zofío, José L, (2017) **A Panel Data Toolbox for MAT-LAB**. *Journal of Statistical Software*. Volume 76, Issue 6, pp 1-27. `http://dx.doi.org/10.18637/jss.v076.i06`

3. Álvarez, Inmaculada C.; Barbero, Javier and Zofío, José L, (2016) **A Spatial Autoregressive Panel Model to Analyze Road Network Spillovers on Production**. *Transportation Research Part A: Policy and Practice*, Elsevier, vol. 93(C), pages 83-92. `http://dx.doi.org/10.1016/j.tra.2016.08.018`

2. Barbero, Javier and Zofío, José L (2016), **The Multiregional Core-periphery Model: The Role of the Spatial Topology**. *Networks and Spatial Economics*, Springer US, 16(2): 469-496. `http://dx.doi.org/10.1007/s11067-015-9285-7`

1. Álvarez, Inmaculada C. and Barbero, Javier, (2016) **The Public Sector and Convergence with Spatial Interdependence: Empirical Evidence from Spain**. *Applied Economics*, 48(24): 2238-2252. `http://dx.doi.org/10.1080/00036846.2015.1117048`

Working Papers and Technical Reports

Only working papers not published in Journals are listed.

- Lecca, P., Barbero, J., Christensen, M., Conte, A., Di Comite, F., Diaz-Lanchas, J., Diukanova, O., Mandras, G., Persyn, D. and Sakkas, S. (2018), **RHOMOLO V3: A Spatial Modelling Framework**, EUR 29229 EN, Publications Office of the European Union, Luxembourg, 2018, ISBN 978-92-79-85886-4, doi:10.2760/671622, JRC111861.

- Balk, Balk M.; Barbero, Javier; and Zof?o, Jos? L. (2018). **A Total Factor Productivity Toolbox for MATLAB**,ERIM Report Series Research in Management ERS-2018-004-LIS, Erasmus Research Institute of Management (ERIM).

- ?lvarez, Inmaculada C.; Barbero, Javier and Zof?o; Jos? Luis (2016), **A Data Envelopment Analysis Toolbox for MATLAB**, Working Papers in Economic Theory 2016/3, Universidad Aut?noma de Madrid (Spain), Department of Economic Analysis.
  Under review in a journal.

RESEARCH SOFTWARE

- **TFP Toolbox for MATLAB**: Total Factor Productivity Toolbox is a new package for MATLAB that includes functions to calculate the main Total Factor Productivity indices and their decompositions, based on Shephard's distance functions and using Data Envelopment Analysis programming techniques. The package includes code for the standard Malmquist, Moorsteen- Bjurek, price weighted and share weighted TFP indices, allowing for the choice of orientation (input or output), reference period (base, comparison, geometric mean), returns to scale (variable or constant) and specific decompositions (aggregate or identifying scale effects as well as input and output mix effects). Classic definitions of TFP corresponding to the Laspeyres, Paasche, Fisher or Törnqvist formulations can be also calculated as particular cases. `http://www.tfptoolbox.com`

- **DEA Toolbox for MATLAB**: Data Envelopment Analysis Toolbox is a new package for MATLAB that includes functions to calculate efficiency and productivity measures. The package covers the radially oriented, directional, additive, allocative, Malmquist ?ndices and Malmquist-Luenberger formulations. `http://www.deatoolbox.com/`

- **Panel Data Toolbox for MATLAB**: Panel Data Toolbox v2.0 is a new package for MATLAB that includes functions to estimate the main econometric methods of panel data analysis. The package covers the standard fixed, between and random effects methods, that are extended to allow for instrumental variables, as well as spatial panel data specifications.
  `http://www.paneldatatoolbox.com/`

- The source code of all software is available on GitHub: `https://github.com/javierbarbero/`.

TEACHING EXPERIENCE

Teaching Assistant, Universidad Autónoma de Madrid (UAM), Madrid, Spain

- **Computer Lab in Economics**. MSc in International Economics. (2015-2016). Teaching how to use MATLAB to graduate students from basic operations to optimization techniques and numerical solving of economic models. The course is taught in English.

- **Microeconomics: Consumer Choice and Producer Behavioir**. BA in Economics. (2015-2016; 2014-2015; 2013-2014; 2012-2013). Teaching introductory microeconomic theory to first year BA students in Economics.

- **Microeconomics: Uncertainty and Game Theory**. BA in Economics. (2014-2015). Teaching advanced microeconomic theory of choice under uncertainty and game theory to third year BA students in Economics.

- **Stata Computer Lab** as part of the course **Microeconometrics: Discrete Choice and Panel Data Models** taught by professor William H. Greene. Short lab (5 hours) of the Advanced Courses in Economics, Universidad Autónoma de Madrid (2015). The lab was taught in English.

- **Introduction to MATLAB for Economics**. MSc in International Economics. (2014). Short course (4 hours) taught to graduate students on how to use MATLAB for solving economic models. The course was taught in English.

- **Stata Computer Lab** as part of the course **Panel Data Analysis with Stata** taught by professor Badi H Baltagi. Short lab (2 hours) of the Advanced Courses in Economics, Universidad Autónoma de Madrid. The lab was taught in English.

GRANTS, AWARDS AND HONORS

Grants

- **Beca de Formación del Profesorado Universitario (FPU)** (05/2012 - 12/2015). Spanish Ministry of Education. PhD Scholarship.

- **Beca de Formación de Personal Investigador (FPI)** (01/2012 - 04/2012). Universidad Autónoma de Madrid (UAM), Spain. PhD Scholarship.

- **Beca de Inicio en Estudios de Posgrado** (11/2010 - 12/2011). Universidad Autónoma de Madrid (UAM). MSc Scholarship.

Awards

- Award for the best academic record of the undergraduate of the academic year 2009/2010. Universidad Autónoma de Madrid (UAM), Spain.

CONFERENCES AND SEMINARS

- 59th ERSA Congress "Cities, regions and digital transformations: Opportunities, risks and challenges", August 27–30, 2019, Lyon, France.

- 20th Conference on International Economics, June 27–28th, 2019, Granada, Spain.

- XLIV Reunión de Estudios Regionales, Universidad de Valencia, November 21–23, 2018, Valencia, Spain

- 58th ERSA Congress "Places for People: Innovative, Inclusive and liveable Regions", August 28–31, 2018, Cork, Ireland

- 29th European Conference on Operational Research, Valencia 8–11, July, 2018.

- VIII Congreso de Eficiencia y Productividad. Universidad de Córdoba, May 10-11, 2018, Córdoba, Spain.

- XLIII Reunión de Estudios Regionales. Universidad Pablo de Olavide, November 16-17, 2017, Seville, Spain.

- Seminar at Center of Operations Research (CIO). Universidad Miguel Hernandez de Elche (UMH), April 14, 2016, Elche, Spain.

- Seminar at Center of Operations Research (CIO). Universidad Miguel Hernandez de Elche (UMH), April 4, 2016, Elche, Spain.

- RES PhD Meetings 2016, January 8–9, 2016, London, UK.

- 40 Simposio de la Asociación Española de Economía-Spanish Economic Association (SAEe), December 10–12, 2015, Girona, Spain.

- 62nd Annual North American Meetings of the Regional Science Association International, November 11–14, 2015, Portland, United States.

- 55th ERSA Congress: "World Renaissance: Changing roles for people and places", August 25–28, 2015, Lisbon, Portugal.

- III Workshop on Urban Economics, June 9–10, 2014, Barcelona, Spain.

- X Jornadas sobre Integración Económica, November 28–29, 2013, Castellón, Spain.

- 8th Meeting of the Urban Economics Association at the 60th Annual North American Meetings of the Regional Science Association International, November 13–16, 2013, Atlanta, United States.

- 6th Seminar Jean Paelinck, October 18–19, 2013, Madrid, Spain.

- IX Jornadas sobre Integraci?n Econ?mica, November 29–30, 2012, Valencia, Spain.

- Seminar in the Department of Economics at New York University (NYU), November 12, 2012, New York, United States

- 59th Annual North American Meetings of the Regional Science Association International, November 7–10, 2012, Ottawa, Canada.

- 52nd ERSA Congress: "Regions in Motion: Breaking the Path", August 21–25, 2012, Bratislava, Slovakia

PROJECTS

Researcher

- "Infraestructuras, Crecimiento Económico y Productividad", 3^a convocatoria de Proyectos de Cooperación Interuniversitaria UAM - Banco Santander con Estados Unidos, July 2015 - December 2016.

- "Efectos macroeconómicos de la integración de Estados Unidos en los acuerdos de libre comercio", 2^a convocatoria de Proyectos de Cooperación Interuniversitaria UAM - Banco Santander con Estados Unidos, July 2013 - December 2014.

- "Comercio Interregional e Internacional de Bienes y Servicios en España y la U.E.: Fundamentos Teóricos y Contrastación Empírica en el Contexto de la Nueva Economía Geográfica", Ministerio de Educación y Ciencia, January 2011 - December 2013. MEC (proyectos I+D+i): ECO2010-21643.

- "Modelización espacial aplicada al movimiento de mercancías y personas en el ámbito internacional e interregional español", Consejería de Educación, Comunidad de Madrid, January 2008 - June 2012. CAM (programas de actividades I+D+i, IV PRICIT): S2007/HUM/0467.

COURSES RECIEVED

- **18th Workshop in Economic Modeling (WEM): International Trade Policy Analysis using GTAPinGAMS and GAMS/MPSGE** (2019). Universidad de Las Palmas de Gran Canaria, Spain. 35h.

- **Introduction to Bayesian Econometrics** (2016). Universidad de Oviedo, Spain. 16.5h.

- **Geographical Information Systems: ARC/GIS (Sistemas de Información Geográfica: ARC/GIS)** (2015). Universidad Complutense de Madrid, Spain. 75h.

- **Microeconometrics: Discrete Choice and Panel Data Model** (2015). Universidad Autónoma de Madrid, Spain.

- **Spatial Econometrics with Applications in GeoDaSpace and R** (2014). Universidad Autónoma de Madrid, Spain. 18h.

- **Panel Data Models with STATA** (2013). Advanced Courses in Economics. Universidad Autónoma de Madrid, Spain. 16h.

- **Cities, Productivity, and Migration** (2013). Centro de Estudios Monetarios y Financieros (CEMFI) Summer School, Spain.

- **Search Models in Labor Markets and Urban Economics** (2012). Advanced Courses in Economics. Universidad Autónoma de Madrid, Spain. 12h.

- **Spatial Regression Models with MATLAB** (2012). Advanced Courses in Economics. Universidad Aut?noma de Madrid, Spain. 20h.

- **DSGE Models with MATLAB and DYNARE** (2011). Advanced Courses in Economics. Universidad Autónoma de Madrid, Spain. 20h.

- **Panel Data Models with STATA** (2011). Advanced Courses in Economics. Universidad Aut?noma de Madrid, Spain. 20h.

- **Micro-structure of Trade: Theory and Evidence.** (2011). Centro de Estudios Monetarios y Financieros (CEMFI) Summer School, Spain.

REFEREEING ACTIVITIES

Journal of Productivity Analysis; Science and Public Policy; The Journal of Technology Transfer; International Journal of Hospitality Management; Sustainability; International Journal of Environmental Research and Public Health; Investigaciones Regionales - Journal of Regional Research; Cuadernos de Economia - Spanish Journal of Economics and Finance (x3); Revue Revue d'Économie Régionale & Urbaine (RERU); Boletín de Estadística e Investigación Operativa (BEIO).

WORK EXPERIENCE. NON ACADEMIC

Banco Cooperativo Español   2009
Credit Risk Analyst

- Department of Credit Risk Analysis.

- Eight month fellowship through Programa de Cooperación Educativa UAM.

LANGUAGES

Spanish   Mother tongue
English   Fluent comprehension, reading, written, and speaking. Experience teaching in English.

IT SKILLS

- **Scientific Software:** Stata, MATLAB, GAMS.

- **Programming languages:** Julia, R, Python, C++

- **Geographical Information Systems:** QGIS, ArcGIS

- **Document preparation system:** LaTeX