



José R. Caro-Barrera

Assistant Professor
University of Córdoba,
Spain

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- Area of Applied Economics
- www.uco.es
- z52cabaj@uco.es
- @caroisallin
- jrcarob
- ORCID: 0000-0001-6154-2493
- José R. Caro-Barrera
- Researchgate

About me

Postdoc researcher and assistant professor at the University of Córdoba, teaching *Statistics* in the degrees of Tourism and Business Administration, *Quantitative methods in Management* and *Microeconomics* in the degree of business administration and *Operations Research* in the Master of Business Administration. My dissertation was based on the development of mortality and fertility projection models and the role of longevity in financial planning for retirement. It was awarded *Cum Laude with International Mention*.

Education

- 2019 PhD in Social Sciences University of Córdoba, Spain
Title: *Pensions, Longevity and Mortality. Long-Term Financial Planning Resources: The Reverse Mortgage as a Complement to Retirement*, Doctoral Dissertation, University of Córdoba, Spain, <https://helvia.uco.es/xmlui/handle/10396/19025>
- 2014 Master in Financial Management ESIC Business & Marketing School
Seville, Spain
- 2010 Master in Finance (Major in Quantitative Finance) University of
Lugano and ETH Zürich
Lugano, Switzerland
- 2003 Degree in Business Administration University of Córdoba
Córdoba, Spain

Research Interests

- Demography and Demographic Models.
- Applied Statistics and Econometrics to Financial Markets.
- Computational Methods for Quantitative Finance.
- Econophysics and Machine Learning for Economics and Finance.

Skills

- IT R & Posit(R-Studio), Python, Markdown, Quarto, Latex, Tikz, Vs-code
- Languages Spanish, English, Italian.

Teaching

- 2025-2026 • *Microeconomics* (Degree in Business Administration).
• *Financial Mathematics* (Degree in Business Administration).
• *Macroeconomics* (Degree in Business Administration).
- 2024-2025 • *Microeconomics* (Degree in Business Administration).
• *Financial Mathematics* (Degree in Business Administration).
• *Foundations of Economics* (Degree in Tourism).
- 2023-2024 • *Applied Statistics to Tourism* (Bilingual Degree in Tourism).
• *Tourism Market Research* (Bilingual Degree in Tourism).
• *Statistics* (Degree in Biology).
• *Computer Data Analysis* (Degree in Labour Relationships and HR).
• *Operations and Production Management* (MBA).
- 2022-2023 • *Applied Statistics to Tourism* (Degree in Tourism).
• *Quantitative Methods for Business* (Degree in Business Administration).
• *Statistics* (Degree in Biology).
• *Computer Data Analysis* (Degree in Labour Relationships and HR).
• *Operations and Production Management* (MBA).
- 2021-2022 • *Statistics* (Degrees in Biology, Chemistry and Environmental Sciences).
• *Computer Data Analysis* (Degree in Labour Relationships and Human Resources).
• *Operations and Production Management* (MBA).
- 2018-2021 • *Quantitative Methods for Business* (Degree in Business Administration).
• *Statistics* (Degrees in Biology, Chemistry and Environmental Sciences).
• *Applied Statistical Methods in Engineering* (Degree in Mechanical Engineering).
• *Statistics Applied to Business Administration* (MBA).
• *Operations and Production Management* (MBA).

Selected Publications

1. Caro-Barrera, JR.; García-Moreno García, MB. & Pérez Priego, M., (2026). *Exploring Trophy Hunting and Recreational Hunting Tourism: an Analysis from a Bibliometric Perspective (1971–2024)*, Transformations in Business and Economics, 25-2(68), pp. 460-483, <https://doi.org/10.15388/Tibe.2026.25.2.6>
2. Pérez Priego, MA.; García-Moreno García, MB.; Caridad López del Río, L. & Caro-Barrera, JR., (2026). *Testing the Weak Form of the Efficient Market Hypothesis and the Impact of COVID-19 in LAC countries*, Revista de Estudios Andaluces, 51, pp. 241-267, <https://doi.org/10.12795/rea.2026.i51>
3. Pérez Priego, M.; García-Moreno García, MB.; & Caro-Barrera, JR; (2023) *Local Gastronomy As a Destination Tourist Attraction: the Case of the 'Chiringuitos' on the Costa del Sol (Spain)*, International Journal of Gastronomy and Food Science, vol. 34, <https://doi.org/10.1016/j.ijgfs.2023.100882>
4. Caro-Barrera, JR; García-Moreno García, MB & Pérez Priego, M., (2022) *Projecting Spanish fertility at regional level: A hierarchical Bayesian approach*, PLoS One, vol. 1, pp: 1-27, <https://doi.org/10.1371/journal.pone.0275492>
5. Caridad y López del Río, L.; García-Moreno García, MB; Caro-Barrera, JR; Pérez Priego, M. & Caridad y López del Río, D., (2021). *Moody's Ratings Statistical Forecasting for Industrial and Retail Firms*, Economies, 9-4, pp. 154, <https://doi.org/10.3390/economies9040154>.
6. Fernández-Carbonell, A.; Rodríguez-Guerrero, E.; Merino Cejas, C.; & Caro-Barrera, JR., (2021). *Predictive Factors for Pulmonary Homograft Dysfunction After Ross Surgery: A 20-Year Follow-up*, The Annals of Thoracic Surgery, 111-4, pp. 1338-1344, <https://doi.org/10.1016/j.athoracsur.2020.06.032>
7. Caro-Barrera, JR., (2020). *Insurance Options: Beating the benchmark. Are Catastrophe Bonds more profitable than Corporate Bonds?*, Journal of Quantitative Methods for Economics and Business Administration, 29, pp. 3-17, <https://doi.org/10.46661/revmetodoscuanteconempresa.2978>
8. Caro-Barrera, JR., (2019). *Statistical physics applications for the valuation of financial assets: From the Fokker-Planck equation to the Black-Scholes model. Finite difference solution for European PUT options*, Estudios de Economía Aplicada, 37-2, <https://doi.org/10.25115/eea.v37i2.2609>
9. Caro-Barrera, JR., (2019). *Credit Risk Models: Practical Application to a Mortgage Refinancing Model*, Journal of Quantitative Methods for Economics and Business Administration, 29, pp. 3-17, <https://doi.org/10.46661/revmetodoscuanteconempresa.2976>

Selected Talks

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| 2026-Jun | 23rd International Congress of Academy Innovation, Entrepreneurship and Knowledge (Aciek)
Málaga, Spain
<i>Title: Intellectual Structure and Thematic Evolution of Research on Astrotourism: A Semantic-Thematic Bibliometric Analysis.</i> |
| 2026-Mar | 20th Annual International Technology, Education and Development Conference (INTED)
Valencia, Spain
<i>Title: Improving Microeconomics Teaching with an Interactive R Shiny Application.</i> |
| 2025-Jun | 22nd International Congress of Academy Innovation, Entrepreneurship and Knowledge (Aciek)
Alcalá de Henares, Madrid, Spain
<i>Title: Exploring Trophy Hunting and Recreational Hunting Tourism: An Analysis from a Bibliometric Perspective (1971-2024).</i> |
| 2023-Sept | Royal Statistical Society International Conference
Harrogate, UK
<i>Title: Projecting Spanish Fertility at Regional Level. A Hierarchical Bayesian Approach.</i> |

2022-Feb	XXXI Jornadas Hispano-Lusas de Gestión Científica <i>Title: Optimisation in the Distribution of Perishable Goods.</i>	Toledo, Spain
2022-Feb	XXXI Jornadas Hispano-Lusas de Gestión Científica <i>Title: Testing the Weak Form of the Efficient Market Hypothesis and the Impact of Covid-19 on Spanish and Portuguese Financial Markets.</i>	Toledo, Spain
2021-Sept	Royal Statistical Society International Conference <i>Title: Computational Methods for Modelling Mortality and Fertility Projections: Application to Spanish Demography.</i>	London, UK

Selected Courses

2023	Topics in Digital and Computational Demography Max Planck Institute for Demographic Research (MPIDR)	15 hours
2023	Basic Course in R for Historical Demography Italian Society of Historical Demography (SIDEs)	12 hours
2023	Exploring Open Large-Scale Historical Demographic DB Italian Society of Historical Demography (SIDEs)	12 hours
2019	Barcelona Summer School of Demography Centre d'Estudis Demografics (CED) • <i>Module 1: Introduction to R. Instructor: Tim Riffe (20 hours).</i> • <i>Module 2: Data Visualization with R Instructor: Ilya Kashnitsky (20 hours).</i> • <i>Module 3: Introduction to R. Instructor: Marie-Pier Bergeron-Boucher (20 hours).</i> • <i>Module 4: Introduction to R. Instructor: Juan Galeano (20 hours).</i>	80 hours

Grants & Stays

2025	Erasmus+ Mobility Teaching Grant Brussels, Belgium	UCLouvain
2023	Erasmus+ Mobility Teaching Grant Münich, Germany	Ludwig Maximilian University