CARLOTTA MONTORSI

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Luxembourg Institute of Socio-Economic Research (LISER)

11, Porte des Sciences, Esch-sur-Alzette L-4366, Luxembourg

DOCTORAL STUDIES

LISER/University of Luxembourg   Belval, Luxembourg
Ph.D. Candidate in Computational Social Sciences   *September 2020 - present*
Thesis Title: "Analyzing Country and Individual Well-Being: Factors, Trends, and Policy Implications"
Expected Completion Date: Fall 2024
Supervisors: *Alessio Fusco, Philippe Van Kerm, Stephane Bordas*

Insubria University (Co-supervision)   Varese, Italy
Ph.D. Candidate in Economics (Double Degree)   *September 2020 - present*
Supervisor: *Chiara Gigliarano*

University of Exeter   Exeter, United Kingdom
Visiting Researcher, Department of Economics   *March - June 2023*
Supervisor: *Dario Sansone*

PRE-DOCTORAL STUDIES

Bocconi University   Milan, Italy
M.Sc. in Economics and Social Sciences   *2017 - 2019*

Bocconi University   Milan, Italy
B.Sc. in Management   *2014 - 2017*

RESEARCH EXPERIENCE

Insubria University   Varese, Italy
Research Assistant, Economics Department   *January 2020 - July 2020*

Reiner Lemoine Institute   Berlin, Germany
Intern, Off-Grid Systems Research Unit   *March 2019 - August 2019*

TEACHING EXPERIENCE

Introduction to Machine Learning (undergraduate), University of Luxembourg   Winter 2023
Teaching Assistant for Professor Philippe Van Kerm

RESEARCH INTERESTS

Machine Learning, Labor Economics, Health Economics, Economics of Discrimination

ONGOING PROJECTS

Small Pictures, Big Biases: The Unintended Effects of an Airbnb Anti-Discrimination Policy with Garbers, J. (Since January 2022)

I combine cutting-edge machine learning models and big data analytics, such as BERT-Transformer for text classification, unsupervised text clustering, and Vision Transformer (ViT) for image classification, with a difference-in-differences design. The project evaluates the impact of an anti-discrimination policy on Airbnb occupancy rates' disparities between white and ethnic minority hosts.

The trickle-down effects of Parental Retirement on Adult Children Well-being: evidence from the UK with Clark, A. (Since September 2022)

I assess the causal impact of retirement and pension reforms on intergenerational well-being, utilizing fuzzy regression discontinuity and difference-in-differences designs. This research sheds light on the broader spillover consequences of welfare reforms.

WORKING PAPERS

Predicting depression in old age: combining life course data with machine learning with Bordas S., Fusco A., Van Kerm P. *Revised and resubmit to* ***Economics and Human Biology***

With ageing populations, understanding life course factors that raise the risk of depression in old age may help anticipate needs and reduce healthcare costs in the long run. We estimate the risk of depression in old age by combining adult life course trajectories and childhood conditions in supervised machine learning algorithms. Using data from the Survey of Health, Ageing and Retirement in Europe (SHARE), we implement and compare the performance of six alternative machine learning algorithms. We analyse the performance of the algorithms using different life-course data configurations. While we obtain similar predictive abilities between algorithms, we achieve the highest predictive performance when employing semi-structured representations of life courses using sequence data. We use the Shapley Additive Explanations method to extract the most decisive predictive patterns. Age, health, childhood conditions, and low education predict most depression risk later in life, but we identify new predictive patterns in indicators of life course instability and low utilization of dental care services.

Spatial comprehensive Well Being composite indicators: an application on Italian provinces with Gigliarano C. *Submitted at* ***Social Indicators Research***

This paper proposes spatial comprehensive composite indicators to evaluate Italian provinces' well-being levels and ranking with data from the Equitable and Sustainable Well-Being (BES) dashboard. We use a method based on Bayesian latent factor models, which allow us to include spatial dependence across Italian provinces, quantify uncertainty in the resulting estimates, and estimate data-driven weights for elementary indicators. The results reveal that the inclusion of spatial information changes the resulting composite indicator rankings compared to those produced by traditional composite indicators approaches. Estimated social and economic well-being is unequally distributed among southern and northern Italian provinces. In contrast, the environmental dimension appears less spatially clustered, and its composite indicators also reach above-average levels in the southern provinces. The time series of well-being composite indicators of Italian macro-areas shows clustering and macro-areas discrimination on larger territorial units.

PUBLICATIONS

Montorsi C., Vaccaro A. (2022), 'Quality of Government and Environmental Well Being across European Regions' **Rivista Italiana di Economia Demografia e Statistica**

Montorsi C., Gigliarano C. (2020) 'Spatial information comprehensive Well Being composite indicator: an illustration on Italian Varese province' **Rivista Italiana di Economia Demografia e Statistica**

Figari F., Fiorio C., Gandullia L., Montorsi C. (2020), 'The resilience of the Italian social protection system at the beginning of COVID-19 crisis: territorial evidence' **Journal of Economic Policy**

POLICY WORK

Figari F., Montorsi C. (2020) **LombardMOD 2016-2019: un modello di microsimulazione fiscale per la regione Lombardia**

Figari F., Montorsi C. (2020) **LigurMOD 2016-2019: un modello di microsimulazione fiscale per la regione Liguria**

ACADEMIC ACTIVITIES

Invited presentations

- CMStatistics, Berlin, Germany 2023
- University of Antwerp, CSB Lunch Seminar 2023

Conference, Seminar and workshops

- LISER Internal Seminar Series, Luxembourg 2023
- 10th Meeting of the Society for the Study of Economic Inequality, Aix-en-Provence, France 2023
- Competence Centre for Data Science and Simulation (DSS), Belval, Luxembourg 2023
- LIVES Workshop 'Cognition, decisions and wellbeing in later life', Losanna, Switzerland 2022
- 7th SHARE User Conference, Bled, Slovenia 2022
- STATEC-Well Being Conference, Luxembourg 2022
- Ph.D. Conference in Social Sciences, Belval, Luxembourg 2022
- IRSEI Brown-Bag Seminar, Belval, Luxembourg 2022
- Machine Learning Seminar, Luxembourg 2021

Training

- Canezei Winter School on Inequality and Social Welfare 2023
- Luxembourg Income Study (LIS) Summer Work-shop 2021
- Spatial Econometrics Summer School 2021
- InGRID-2 Winter school 'Recent advances in poverty and inequality research' 2021
- Introduction to EUROMOD: Tax and benefit microsimulation models for EU-28 2020

Refereeing Activity:

- Peer-reviewed: *The Italian Journal of Economic, Demographic and Statistical Studies*

COMPUTER SKILLS

Advanced: **R, Python, Stata, LaTeX**
Intermediate: **High Performance Computing (HPC), EUROMOD**

Office Suite: proficient in Word, Excel, and PowerPoint.

LANGUAGES

Italian (Native), **English C1** (Proficient), **Spanish B2** (Advanced)