

Marica Manisera - Curriculum Vitae

STUDY DEGREES

Master of Science in Political Economics (Laurea cum laude), University of Brescia (1996-2001)

PhD in Methodological and Applied Statistics, University of Milano-Bicocca (2001-2005)

PROFESSIONAL POSITIONS

Assistant Professor of Statistics the Dept. of Economics and Management, University of Brescia (since 2009)

Main lecturer of “Statistics” (from 2014/15) and “Business and Financial Data Analysis” (from 2012/13) at the Dept. of Economics and Management, University of Brescia

Member of the Teaching Committee of the PhD in Analytics for Economics and Business (AEB), Universities of Bergamo and Brescia (since 2013)

Member of the Scientific Committee of the Research group DMS-StatLab (Data, Methods and Systems – Statistical Laboratory), University of Brescia

Member of Italian Statistical Society (SIS)

Member of International Association for Statistical Computing (IASC)

Guest Editor of the Special Issue “Statistics in Sports”, Electronic Journal of Applied Statistic Analysis.

Reviewer for Australian & New Zealand Journal of Statistics, The R Journal, Statistica & Applicazioni, Electronic Journal of Applied Statistical Analysis, Statistica Applicata - Italian Journal of Applied Statistics, British Food Journal, Journal of Statistical Distributions and Applications, International Journal of the Physical Sciences, Journal of Applied Statistics, IEEE Transactions on Neural Networks and Learning Systems, Quality and Quantity, Micro&MacroMarketing, AStA Advances in Statistical Analysis, Communications in Statistics – Theory and Methods, Journal of Applied Statistics and for Springer and Elsevier books.

RESEARCH ACTIVITY

Main research interests

- Statistical methods and models applied to Sports.
- Statistical methods and models for ordinal data, in particular coming from Likert-type scales and with hierarchical structure, with special attention devoted to the presence of unobservable variables. In detail:
 - Application to real data of multivariate data analysis techniques and data mining algorithms (linear and nonlinear Principal Components Analysis, cluster analysis, tree-based ensemble learning) with the aim of evaluating the quality of work and, in general, psychological latent constructs and sensory analysis;
 - Study of Nonlinear Principal Components Analysis, with methodological proposals and innovative applications for constructing composite indicators for unobservable variables, measuring nonlinearity in the data, graphical tools for comparing subjects on the basis of categorical variables, bootstrap studies for evaluating the stability of the solution, also in the presence of hierarchical data;
 - Study of CUB models (Combination of a discrete Uniform and a shifted Binomial distributions), with application in sensory analysis and marketing; proposal of a new class of models named “Nonlinear CUB”;
 - Study of statistical methods for analysis and treatment of missing data and “don’t know” responses to survey questions;

- Analysis of ranking data by weighted rank-correlation measures derived from Spearman's rho and use of those indices in data analysis techniques based on dissimilarity matrices, like Hierarchical cluster analysis, with applications to customer satisfaction.

I published more than 50 articles, including peer-reviewed papers on national and international journals, book chapters, working papers and conference proceedings. I participated to nearly 40 international and national conferences, as invited speaker, contributed speaker or invited discussant. I am and have been member of several research projects, granted by national (PRIN) and international (European Union Seventh Framework Programme) funds.

MAIN PUBLICATIONS

1. PUBLICATIONS ON SCIENTIFIC JOURNALS

International Journals with Impact Factor

- Iannario M., Manisera M., Zuccolotto P. (2017). The treatment of "don't know" responses in the consumers' perceptions about sustainability in the agri-food sector, *Quality & Quantity*, 51, 2, 765-778.
- Manisera M., Zuccolotto P. (2016). Estimation of Nonlinear CUB models via numerical optimization and EM algorithm, *Communications in Statistics - Simulation and Computation*, forthcoming.
- Brentari E., Dancelli L., Manisera M. (2016). "Clustering ranking data in market segmentation: a case study on the Italian McDonald's customers' preferences", *Journal of Applied Statistics*, 43, 11, 1959-1976.
- Manisera M., Zuccolotto P. (2015). "Identifiability of a model for discrete frequency distributions with a multidimensional parameter space", *Journal of Multivariate Analysis*, 140, 302-316.
- Manisera M., Zuccolotto P. (2014). "Modeling rating data with Nonlinear CUB models", *Computational Statistics and Data Analysis*, 78, 100-118.
- Manisera M., Zuccolotto P. (2014). "Modelling "don't know" responses in rating scales", *Pattern Recognition Letters*, 45, 226-234.
- Iannario M., Manisera M., Piccolo D., Zuccolotto P. (2012). "Sensory analysis in the food industry as a tool for marketing decisions". *Advances in Data Analysis and Classification*, 6, 4, 303-321.
- Carpita M., Manisera M. (2011). "On the Imputation of Missing Data in Surveys with Likert-Type Scales". *Journal of Classification*, 28(1), pp. 93-112.
- Manisera M., Van der Kooij A.J., & Dusseldorp E.M.L. (2010). "Identifying the component structure of satisfaction scales by nonlinear Principal Components Analysis". *Quality Technology and Quantitative Management (ISSN 1684-3703)*, 7, 2, 97-115.

International Journals without Impact Factor, indexed in SCOPUS

- Manisera M., Zuccolotto P. (2016). Treatment of 'don't know' responses in a mixture model for rating data, *Metron*, 74, 99-115.
- Manisera M., Zuccolotto P. (2015). "Visualizing Multiple Results from Nonlinear CUB Models with R Grid Viewports". *Electronic Journal of Applied Statistical Analysis*, 8, 3, 360-373.
- Manisera M., Zuccolotto P. (2013). "Nonlinear CUB models: Some stylized facts", *QdS Journal of Methodological and Applied Statistics*, n.1-2.
- Dancelli L., Manisera M., Vezzoli M. (2013). "On Pinto da Costa & Soares' and other Weighted Rank Correlation Measures deriving from the Spearman's ρ ". *Advances and Applications in Statistics*, 36,2, 83-104.
- Manisera M., Vezzoli M. (2012). "Assessing item contribution on unobservable variables' measures with hierarchical data". *Electronic Journal of Applied Statistical Analysis*, 5, 3, pp. 314-319.
- Carpita M., Manisera M. (2012). "Constructing indicators of unobservable variables from parallel measurements". *Electronic Journal of Applied Statistical Analysis*, 5, 3, 320-326.
- Manisera M. (2011). "A graphical tool to compare groups of subjects on categorical variables". *Electronic Journal of Applied Statistical Analysis (ISSN 2070-5948)*, 4, 1, 1-22.

National Journals

- Manisera M., Zuccolotto P. (2017). "Sport Analytics: La Statistica Divertente". *Induzioni*
- Manisera M., Zuccolotto P. (2014). "Nonlinear CUB models: the R code". *Statistica & Applicazioni*, XII, 2, 205-223.
- Dancelli L., Manisera M., Vezzoli M. (2013). "Interpreting clusters and their Bipolar Means: a case study". *Statistica & Applicazioni*, XI, 1, 49-62.

- Manisera M., Piccolo D., Zuccolotto P. (2011). "Analyzing and modelling rating data for sensory analysis in food industry". *Quaderni di Statistica*, 13, pp. 69-82.
- Manfredi P., Manisera M., & Dabrassi F. (2009). "The alexithymia construct: a reading based on Categorical Principal Component Analysis". *Psychofenia*, XII, 21, 165-180.
- Manisera M. (2007). "Il profilo socio-demografico dei lavoratori". *Impresa Sociale*, Anno XVII, Vol. 76, n. 3, pp. 107-123.
- Carpita M., Manisera M. (2007). "Motivazioni, atteggiamenti ed incentivi non economici del lavoro nelle cooperative sociali". *Impresa Sociale*, Anno XVII, Vol. 76, n. 3, 173-192.
- Brentari E., Golia S., Manisera M. (2007). "Models for categorical data: a comparison between the Rasch model and Nonlinear Principal Component Analysis". *Statistica & Applicazioni*, V, 1, 53-77.
- Manisera M. (2007). "Scoring ordinal variables for constructing composite indicators". *Statistica*, LXVII(3), 309-324.
- Manisera M., Mazzali A. (2006). "A Nonlinear Least Squares solution of a minimax estimation problem for stationary time series". *Statistica & Applicazioni*, IV(1), 3-22.

2. BOOK CHAPTERS

- Dancelli L., Manisera M., Vezzoli M. (2013). "On two classes of Weighted Rank Correlation measures deriving from the Spearman's ρ ". In P. Giudici, S. Ingrassia, M. Vichi (Eds.), *Statistical Models for Data Analysis* (pp. 107-114). Springer.
- Manisera M. (2013). "Assessing Stability in NonLinear PCA with Hierarchical Data". In P. Giudici, S. Ingrassia, M. Vichi (Eds.), *Statistical Models for Data Analysis* (pp. 217-224). Springer.
- Carpita M., Manisera M. (2011). "On the nonlinearity of homogeneous ordinal variables". In S. Ingrassia, R. Rocci, M. Vichi (Eds.), *New Perspectives in Statistical Modeling and Data Analysis* (pp. 489-496). Springer.
- Manisera M. (2009). "Un'analisi esplorativa della qualità del lavoro nelle cooperative sociali". In M. Carpita (Ed.), *La qualità del lavoro nelle cooperative sociali – Misure e modelli statistici* (pp. 37-64). FrancoAngeli editore, Milano.
- Brentari E., Golia S., Manisera M. (2008). "Analyzing ordinal data to measure customer satisfaction: a comparison between the Rasch Model and CatPCA". In L. D'Ambra, P. Rostirolla, M. Squillante (Eds.), *Metodi, Modelli, e Tecnologie dell'Informazione a Supporto delle Decisioni. Parte prima: metodologie* (pp. 55-62). Franco Angeli, Milano.
- Manisera M. (2006). "Sulla scelta dello scaling level nell'Analisi delle Componenti Principali Nonlineare". In P. Amenta, L. D'Ambra, M. Squillante, A. Ventre (Eds.), *Metodi Modelli e tecnologie dell'informazione a supporto delle decisioni* (pp. 429-438). Franco Angeli, Milano.
- Carpita M., Manisera M. (2006). "Un'analisi delle relazioni tra equità, motivazione e soddisfazione per il lavoro". In M. Carpita, L. D'Ambra, M. Vichi, G. Vittadini (Eds.), *Valutare la qualità. I servizi di pubblica utilità alla persona* (pp. 311-360). Edizioni Angelo Guerini e Associati SpA, Milano.