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Decreto Rettore Università di Roma "La Sapienza" n 1828 del 2018

Alberto Arcagni

Curriculum Vitae

Academic position

2011 – Now: research fellow at University of Milano-Bicocca, school of Economics and Statistical Sciences, SSD SECS-S/01 Statistics and SECS-S/06 Mathematical Methods of Economics, Financial and Actuarial Sciences

General information

full name Arcagni Alberto Giovanni
sex male

Educational qualification

2007 - 2011	PhD in Statistics and Applications
Thesis Title	The determination of the parameters of a new distribution model for non-negative variables: methodological aspects and applications
	Dipartimento di Statistica e Metodi Quantitativi Edificio U7, Via Bicocca degli Arcimboldi 8, 20126, Milano, Italy
2005 - 2008	Master's degree in Business Economics
Final Grade	110 cum laude
Thesis Title	Stimatori del coefficiente angolare basati sul rapporto incrementale fra medie superiori e inferiori
	University of Milano-Bicocca Piazza dell'Ateneo Nuovo 1, 20126, Milano, Italy
2002 - 2005	Bachelor of Economics, Statistics and Computer Science for the Company
Final Grade	110 cum laude
Thesis Title	Analisi statistica sugli indicatori di occupazione e benessere delle regioni italiane
	University of Milano-Bicocca Piazza dell'Ateneo Nuovo 1, 20126, Milano, Italy
1997 - 2002	High school - Liceo Scientifico Tecnologico
Final Grade	100/100
	IIS Alessandrini Via Einaudi 3, 20081, Abbiategrasso (MI), Italy

Languages

First language Italian

Other languages English

- Understanding
 - Listening: **B2** (independent user)
 - Reading: **B2** (independent user)
- Speaking
 - Spoken interaction: **B2** (independent user)
 - Spoken production: **B2** (independent user)
- Writing: **B1** (independent user)

Work experience

- Apr. 2015 - now** Research Fellow, "Inequality and centrality measures in complex networks: theory and applications" secs-s/01 secs-s/06
University of Milano-Bicocca
Piazza dell'Ateneo Nuovo 1, 20126, Milano, Italy
- Apr. 2011 - Mar. 2015** Research Fellow, "Stima dei tre parametri del modello di distribuzione di Zenga per variabili non-negative" secs-s/01
University of Milano-Bicocca
Piazza dell'Ateneo Nuovo 1, 20126, Milano, Italy
- Aug. 2013 - Sep. 2013** Occasional collaboration for the implementation of the software package COGARCH in the R environment
Dipartimento di Ingegneria and Università degli studi di Bergamo - via Salvecchio 19 - 24129 Bergamo
- Dec. 2013** Occasional collaboration, consultancy for the analysis of data about the buying behavior.
Sinte SRL, via Montegrappa 4, 20900, Monza (MB), Italy

Software development

- Arcagni, A. and Bagnato, L. (2014). sBF: Smooth Backfitting. R package version 1.1.1. <http://CRAN.R-project.org/package=sBF>
- Arcagni, A. and Fattore, M. (2018). parsec: Partial Orders in Socio-Economics. R package version 1.2.0. <http://CRAN.R-project.org/package=parsec>

Teaching activities

School of Economics and Statistical Sciences, University of Milano-Bicocca

Piazza dell'Ateneo Nuovo 1, 20126, Milano, Italy

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| 2008 – Now | Teaching Assistant in Statistics |
| 2012 – Now | Teaching Assistant in Statistical Methods |
| 2013 – 2014 | Teaching Assistant in Statistical Methods for the Management |

2010 – 2012 Teaching Assistant in Probability, Distributions and Multiple Regression

School of Economics and Management, University of Milan
Via Festa del Perdono 7, 20122 Milano, Italy

2018 – Now Adjunct Professor in "Programming for data science lab", an R laboratory of the second level master in "Data Science for Economics, Business and Finance"

2016 – 2017 Adjunct Professor in Computational Statistics with R

Publications

Articles

1. Arcagni A., Zenga M.M.: Application of Zenga's distribution to a panel survey on household incomes of European Member States. *Statistica & Applicazioni*, XI(1), Vita e Pensiero, **2013**
2. Arcagni A., Porro F.: On the parameters of Zenga distribution. *Statistical Methods & Applications*, XXII(3), pp. 285-303, **2013**
3. Arcagni A.: Zenga distribution: parameters estimation with constraints on synthetic inequality indices. *Statistica & Applicazioni*, XII(1), pp. 17-38, **2014**
4. Fattore M., Arcagni A., Barberis S.: Visualizing Partially Ordered Sets for Socioeconomic analysis. *Revista Colombiana de Estadística*, Special issue in "Current Topics in Statistical Graphics", 37(2), **2014**
5. Arcagni A., Porro F.: The graphical representation of inequality. *Revista Colombiana de Estadística*, Special issue in "Current Topics in Statistical Graphics", 37(2), **2014**
6. Fattore M., Maggino F., Arcagni A.: Exploiting ordinal data for subjective well-being evaluation, *Statistics in Transition new series*, 16(3), 409-428, **2015**
7. Grassi, R., Fattore, M., Arcagni, A.: Structural and non-structural temporal evolution of socio-economic real networks, *Quality & Quantity*, 49(4), 1597-1608, **2015**
8. Arcagni A., Porro F.: A comparison of income distributions models through inequality curves, *Statistica & Applicazioni* 14(2), **2016**
9. Sonubi A., Arcagni A., Stefani S., Ausloos M.: Effects of competition and cooperation interaction between agents on networks in the presence of a market capacity. *Physical Review E*, 94, 022303, **2016**
10. Arcagni A.: On the decomposition by sources of the Zenga 1984 point and synthetic inequality indexes, *Statistical Methods & Applications*, 26(1), 113-133, DOI: 10.1007/s10260-016-0360-0, **2017**
11. Arcagni A., Grassi R., Stefani S., Torriero A.: Higher order assortativity in complex networks. *European Journal of Operational Research* 262(2), 708-719, DOI: 10.1016/j.ejor.2017.04.028, **2017**
12. Arcagni A., Barbiano di Belgiojoso E., Fattore M., Rimoldi S.M.L.: Multidimensional Analysis of Deprivation and Fragility Patterns of Migrants in Lombardy, Using Partially Ordered Sets and Self-Organizing Maps. *Social Indicators Research*, ISSN: 0303-8300, doi: 10.1007/s11205-018-1856-9, **2018**
13. Fattore M., Arcagni A.: A reduced posetic approach to the measurement of multidimensional ordinal deprivation. *Social Indicators Research*, 136(3), 1053-1070, **2018**
14. Simin, P.T., Jafari, G.R., Ausloos, M., Caiafa, C.F., Caram, F., Sonubi, A., Arcagni, A., Stefani, S.: Dynamical phase diagrams of a love capacity constrained prey–predator model. *European Physical Journal B*, 91(2), 42-61, **2018**

Book chapters

15. Fattore M., Grassi R., Arcagni A.: Measuring Structural Dissimilarity Between Finite Partial

Orders. Multi-indicator Systems and Modelling in Partial Order, Ed. Rainer Brüggemann, Lars Carlsen, Jochen Wittmann, Springer New York, ISBN: 978-1-4614-8222-2 (Print) 978-1-4614-8223-9 (Online), **2014**

16. Fattore M., Arcagni A.: PARSEC: An R Package for Poset-Based Evaluation of Multidimensional Poverty. Multi-indicator Systems and Modelling in Partial Order, Ed. Rainer Brüggemann, Lars Carlsen, Jochen Wittmann, Springer New York, ISBN: 978-1-4614-8222-2 (Print) 978-1-4614-8223-9 (Online), **2014**
17. Fattore M., Maggino F., Arcagni A.: Non-aggregative Assessment of Subjective Well-Being. In: Allewaert G., Giombini A. (eds) Topics in Theoretical and Applied Statistics. Studies in Theoretical and Applied Statistics. Springer, Cham, DOI: 10.1007/978-3-319-27274-0_20, **2016**
18. Arcagni A.: PARSEC: An R Package for Partial Orders in Socio-Economics. Partial Order Concepts in Applied Sciences, Ed. Marco Fattore and Rainer Brüggemann, DOI: 10.1007/978-3-319-45451-4_19, **2017**

Seminars and Meetings

- Zenga M.M., Arcagni A.: Estimating the Three Parameters of Zenga's Distribution for Income by Size. Conference proceedings of the ISI 58th World Statistics Congress of the International Statistical Institute, **2011**
- Zenga, M.M., Arcagni, A.: Application of Zenga's distribution to a panel survey on household incomes of 15 European Member States, Royal Statistical Society 2012 International Conference: 3-6 September, Telford UK, **2012**
- Fattore, M., Maggino, F., Arcagni, A.: Counting and partial order approaches to multidimensional poverty evaluation, International Society For Quality-of-Life Studies, Venezia, November 1-4, **2012**
- Fattore M., Arcagni A.: Measuring multidimensional polarization with ordinal data SIS 2013 statistical conference, BES-M3, **2013**
- Arcagni, A., Blangiardo, G.C., Fattore, M., Mirabelli, S.M.: Misurare il livello di integrazione della popolazione straniera in ambito economico-lavorativo. Società Italiana di Economia, Demografia e Statistica, 50ema Riunione Scientifica (Roma, 29, 30 e 31 Maggio 2013), **2013**
- Arcagni, A., Zenga, M.M.: Decomposition by sources of the ξ inequality index. Conference proceedings of the 47th Scientific Meeting of the Italian Statistical Society Cagliari, **2014**
- Arcagni, A.: Income Distribution at Flint: A Comparison of the Inequality with Other American Cities. Flint One City 100 Years Under Variability, **2014**
- Fattore, M., Busetta, A., Mendola, D., Arcagni A.: A fuzzy approach to multidimensional material deprivation measurement: the case of foreigners living in Italy, European Population Conference, Budapest, Hungary, **2014**
- Arcagni, A., D'Errico, M., Stefani, S.: Analysis of Input-Output networks via Inequality Measures. Euro Working Group for Commodities and Financial Modelling 54° Meeting - Milano, Italy - Dec. 4-6, **2014**
- Fattore, M., Arcagni, A.: Introductory lecture on Partially ordered sets and the measurement of multidimensional ordinal deprivation, correlated event to the 11th Partial Order Workshop – Firenze, Italy – Apr. 9-10, **2015**
- Arcagni, A.: Esempi ed esercitazioni su dati simulati e reali: il package R PARSEC, corso della Scuola Italiana di Statistica – Firenze, Italy – May 4-6, **2016**
- Arcagni, A., Grassi, R., Stefani, S., Torriero A.: Higher order assortativity in complex networks, Net 2016 – Trento, Italy – Dec. 16-17, **2016**

Reviewer activity

Conferences Organization

- Itacsm, University of Milano Bicocca, 26-28 June 2013
- EURO Working Group for Commodities and Financial Modelling, University of Milano Bicocca, 4-6 December 2014

Other

- I have attended the III edition of the Summer School: "GEM: Green Energy Management", 2016

I am research fellow (April 2011 - March 2015 "Stima dei tre parametri del modello di distribuzione di Zenga per variabili non-negative" secs-s/01, April 2015 - now "Inequality and centrality measures in complex networks: theory and applications" secs-s/01 and secs-s/06) in Statistics and Applied Mathematics, graduated in Economics and PhD in Statistics (University of Milano-Bicocca). The main topics of my research are income distributions, inequality, wellbeing, partial orders and networks.

In the bachelor thesis I applied the cluster analysis and the principal component analysis to a set of well-being indicators related to the Italian regions. My master's degree thesis is about an estimation method for the parameters of the linear regression model alternative to the least squares method, based on lower and upper means. The PhD thesis is about a new income distribution model. I examined this topic in two papers published on the journals *Statistica & Applicazioni* and *Statistical Methods & Applications* [1, 2]. This distribution model is strictly related to inequality indexes. A single-author paper published on *Statistica & Applicazioni* proposes a numerical procedure to estimate the model parameters with restrictions on the inequality indices [3]. Other papers about income distribution models and inequality curves are published on *Statistica & Applicazioni* and on a special issue of the *Revista Colombiana de Estadística* [5, 8]. Another single-author paper is published on *Statistical Methods & Applications* and it is about the decomposition by sources of inequality indices [10].

I am also interested in Multi-indicator Systems (MIS). I studied partial orders and networks to analyse MIS based on a set of ordinal variables. These studies led to the publication of four chapters in specialized research books [15, 16, 17, 18] and to five articles on the journals *Quality & Quantity*, *Revista Colombiana de Estadística*, *Statistics in Transition* and *Social Indicators Research* [4, 6, 7, 12, 13].

The new research fellow position introduced me to complex networks. I delivered the presentation "Analysis of Input-Output networks via Inequality Measures" to the Euro Working Group for Commodities and Financial Modelling 54th Meeting. I am author of two papers on peer multi-agent networks [9, 14] and of a paper on the *European Journal of Operational Research* about graphs and assortativity [11].

I am skilled in computer science. I code in C, SQL and I am interested in Python and Julia Language. I am an advanced user of R and I contribute to R packages development. I developed the "sBF" package, about Smooth Backfitting methodologies. I have also developed the "parsec" package (PARTial orders in Socio-Economics, see publications [16, 18]). Both packages are available on CRAN. Through a collaboration with the University of Bergamo I have been involved in the development of the "COGARCH" package, about the simulation and estimation of various kind of continuous-time GARCH processes. In 2016-2017 I was adjunct professor at the University of Milan of a course about computational statistics with R. Now I teach the R language in the second level master in "Data Science for Economics, Business and Finance" organized by the "Department of Economics, Management and Quantitative Methods" and the "Department of Computer Science Giovanni Degli Antoni" of the University of Milan.

Date

Alberto Arcagni

27/08/2018

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