CURRICULUM VITÆ FABIO PIACENZA

PERSONAL INFORMATION

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DATE OF BIRTH:	March 15 th , 1976
PLACE OF BIRTH:	Alessandria, Italy
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RELEVANT WORK EXPERIENCE

Oct '10 to present UniCredit S.p.A. – Group Risk Management Department (CRO), Milan Group Operational & Reputational Risks

Leading the quants team in the Group Operational & Reputational Risks department of UniCredit S.p.A.

Main tasks include:

- developing model for Operational Risk capital requirement calculation at Group level, based on Advanced Measurement Approach (AMA);
- implementing capital calculation engine and developing business specifications for the UniCredit IT factory;
- developing a risk-sensitive capital allocation mechanism for AMA subsidiaries of the Group;
- performing stress tests on OpRisk capital requirement with an active involvement in the stress test exercises for EBA, Pillar I and ICAAP;
- performing research on quantitative techniques to measure OpRisk;
- calculating OpRisk consolidated capital requirement including the Standardized Approach (TSA) and Basic Indicator Approach (BIA) contributions;
- performing trainings to the involved colleagues of UniCredit SpA and subsidiaries;
- producing results for supervisory notifications to Regulators (COREP and QIS templates). E.g. active involvement in UniCredit position paper to EBA Consultation Document "Draft Implementing Technical Standards amending Implementing Regulation (EU) No 680/2014 with regard to operational risk and sovereign exposures" (https://www.eba.europa.eu/documents/10180/1658500/UniCredit+Response+to+EBA+Consultation+OpRisk+Reporting++Final1.pdt);
- defining operational risk capital requirement figures for forecast, budget and multiyear plan purposes;
- keeping relations with counterparties involved in OpRisk capital requirement measurement (e.g. subsidiaries, finance department, Regulators, Internal Validation and Audit);
- supporting other teams of the Operational & Reputational Risks department on quantitative research and statistical analysis;
- supporting insurance coverage optimization in the Group;
- performing economic capital calculation for OpRisk with active involvement in the ICAAP process;
- performing research and analysis to support future regulatory developments in Operational Risk, i.e. Basel III: Finalising post-crisis reforms. E.g. active involvement in UniCredit position paper to BCBS Consultation Document "Standardised Measurement Approach for operational risk";
- active involvement in the UniCredit Quants Community;

coordinating the UniCredit R Developers Group, organizing trainings on R programming language and following the recent developments in R and RStudio;

member of ORX Analytics Working Group.

Sep '18 to Oct '18 Bocconi University, Milan MAFINRISK Bocconi Lecturer Course: "THE R LANGUAGE - INTRODUCTORY COURSE".

Teaching the first half of "THE R LANGUAGE - INTRODUCTORY COURSE" (Lectures 1-2-3) to students of MAFINRISK (Master in Quantitative Finance and Risk Management) - class 2018/2019.

The first half of "THE R LANGUAGE - INTRODUCTORY COURSE" covered the following topics:

- R overview and history -
- R installation
- Overview of RStudio environment -
- Running R codes
- Comment R codes
- Arithmetic operators
- Variable Assignment
- Help functions
- Objects in R (examples of objects, object types, object classes)
- Functions (typical form of an R function, passing arguments)
- Vectors (indexing vectors, recycling rule, sequences, rep function)
- Matrices -
- Not available data (NA)
- Dates
- Logical operators, If else operator and the For loop
- The working directory
- R packages (install and load packages)
- The data frame object
- The list object
- The apply functions
- Benchmark code performances
- User-defined functions
- Debugging

Jan '18 to Mar '18 Bocconi University, Milan MAFINRISK Bocconi Lecturer Course: "TOPICS IN FINANCIAL ECONOMETRICS WITH R - 1" (http://didattica.unibocconi.eu/docenti/cv.php?rif=206894).

Teaching module "Introduction to R" (Lectures 1-2) to students of MAFINRISK (Master in Quantitative Finance and Risk Management) - class 2017/2018 (http://didattica.unibocconi.eu/myigier/doc.php?idDoc=21689&IdUte=48917&idr=1754&Tipo=m&lingua=eng).

The module "Introduction to R" covered the following topics:

- R overview and history
- R-Studio environment (R scripts, Console, Workspace, History, Files, Plots, Packages, Help)
- Assigning values to variables
- Help functions
- Objects orientation in R (examples of objects, data types and object classes)
- Vectors and matrices (indexing vectors, recycling rule, sequences, passing arguments to functions, rep function)
- Not available data (NA) -
- Dates -
- Logical operators, If else operator and the For loop
- The working directory
- R packages (install and load packages)
- Import/export data from text files
- The list object

- The apply functions
- Benchmark code performances
- User-defined functions
- Environments in R
- Read code from a file
- Debugging
- Plot functions
- Probability distributions in R
- Basic statistics functions
- Exercises and examples
- Apr '17 to May '17 and *MAFINRISK UniCredit-Bocconi Lecturer. Course: "THE R LANGUAGE"* Apr '16 to May '16

Teaching module "Introduction to R" to students of MAFINRISK (Master in Quantitative Finance and Risk Management) - classes 2015/2016 and 2016/2017.

The course was organized by the UniCredit Quants Community (community of UniCredit employees with a quantitative background) in collaboration with Bocconi University - Milan.

Jan '03 to Sep '10 UniCredit S.p.A. - Risk Management Department (CRO), Milan Operational Risk Quantitative Analyst

Working as Quantitative Analyst in the Operational Risk Management unit of the Holding Company of UniCredit Group, in charge of the development and the implementation of the Operational Risk capital model.

Jun '02 to Dec '02 UniCredito Italiano S.p.A., Milan Internship

Developing C codes to optimize the Value-at-Risk calculation engine for Market Risk Management (previously implemented in VBA). Research on operational risk measurement and development of first prototypes to calculate the operational risk capital requirement.

EDUCATION

1995 to 2001	University of Eastern Piedmont "Amedeo Avogadro", Alessandria Degree in Mathematics, obtained on December 11 th , 2001 Final grade: 107/110 Title of thesis: "Tecniche di Datamining e Applicazioni".
1990 to 1995	Technical and Industrial High School "Alessandro Volta", Alessandria Diploma in Computer Science, obtained on July 1995

SKILLS

LANGUAGES

ITALIAN: mother tongue

ENGLISH: good level, written and spoken

COMPUTER SKILLS

OS: Windows, Linux

General purpose computing languages: C, C++, Java

Statistical computing languages: R, RStudio (Desktop and Server), S-Plus, SAS, SPSS, Minitab

Other: MS-Office (Word, Excel, PowerPoint, Access, Outlook), LaTeX

OTHERS

EVENTS

Speaker at First Milano R net meeting (Milan – May 8th 2012) – Title of presentation: "R and Operational Risk" (<u>http://www.milanor.net/blog/?page_id=56</u>).

Speaker at 2014 ORX Analytics Working Group Meeting with Alessandra Sordi (Paris – April 8th 2014) – Title of presentation: "Severity distribution selection criteria in UniCredit AMA model" (<u>https://managingrisktogether.orx.org/</u>).

Speaker at EARL 2015 – Effective Applications of R Language – with Ivan Danesi (London – September 15th 2015) – Title of presentation: "**R and Operational Risk in UniCredit**" (https://earlconf.com/2015/london/Speakers/fabio_piacenza.html).

Speaker at CLADAG 2015 – 10th Scientific Meeting of the Classification and Data Analysis – Group of the Italian Statistical Society (Cagliari – October 8th 2015) – Title of presentation: "**Posterior distributions from optimally b-robust estimating functions and approximate Bayesian computation**"

(http://convegni.unica.it/cladag2015/files/2015/10/Cladag2015_BoA_final.pdf).

COURSES

Teacher at ABI courses on Operational Risk Management (2004, 2005, 2006 and 2007) – Title of presentation "**Processi di determinazione del capitale di rischio: aspetti statistico matematici**".

Teacher at ASSIOM FOREX (Associazione Operatori dei Mercati Finanziari) course on Operational Risk (2017, 2018) "La nuova disciplina del rischio operativo nelle banche" (<u>http://www.assiomforex.it/corsi/corsi?anno=2018&id=113</u>).

SOFTWARE DEVELOPMENTS

R package: "OBRE: Optimal B-Robust Estimator Tools"

Authors: Andrea Riboldi, Ivan Luciano Danesi, Fabio Piacenza, Ruben Ciaponi, Stephen Allen, Novella Saccenti, Anna Rita Filippi

An implementation for computing Optimal B-Robust Estimators (OBRE) of two parameters distributions. The procedure is composed by some equations that are evaluated alternatively until the solution is reached. Some tools for analyzing the estimates are included. The most relevant is OBRE covariance matrix computation using a closed formula (<u>https://CRAN.R-project.org/package=OBRE</u>).

PUBLICATIONS

- [1] Bert Crielaard, Davide Bazzarello, Fabio Piacenza and Aldo Soprano. April 2006. *A captive audience*. *Operational Risk and Compliace.*
- [2] Davide Bazzarello, Bert Crielaard, Fabio Piacenza and Aldo Soprano. Spring 2006. *Modeling insurance mitigation on operational risk capital.* The Journal of Operational Risk, 1(1), 57-65.

- [3] Fabio Piacenza, Daniele Ruspantini and Aldo Soprano. Fall 2006. *Operational risk classes homogeneity*. *The Journal of Operational Risk*, 1(3), 51-59.
- [4] Fabio Monti, Michael Brunner, Fabio Piacenza and Davide Bazzarello. 2009. Diversification effects in operational risk: A robust approach. Journal of Risk Management in Financial Institutions, 3(3), 243-258.
- [5] Michael Brunner, Fabio Piacenza, Fabio Monti and Davide Bazzarello. 2009. *Capital allocation for operational risk.* Journal of Risk Management in Financial Institutions, 2(2), 165-174.
- [6] Michael Brunner, Fabio Piacenza, Fabio Monti and Davide Bazzarello. 2009. *Fat Tails, expected shortfall and Monte Carlo: A note.* The Journal of Operational Risk, 4(1), 81-88.
- [7] Aldo Soprano, Bert Crielaard, Fabio Piacenza and Daniele Ruspantini. 2009. *Measuring Operational and Reputational Risk A Practitioners Approach*. John Wiley & Sons Ltd Edition.
- [8] Davide Bazzarello and Fabio Piacenza. 2009. *Il loss distribution approach e lo scenario based approach nell'esperienza UniCredit*. Article included in the book *Il rischio operativo nelle banche italiane Modelli, gestione e disclosure*. Bancaria Editrice.
- [9] Ivan Luciano Danesi, Fabio Piacenza, Erlis Ruli and Laura Ventura. 2016. Posterior Distributions via Optimal B-Robust Estimating functions for Operational Risk. Journal of Operational Risk, 11(4), 35–54.
- [10] Fabio Piacenza and Claudia Belloni. 2017. *Standardized Measurement Approach Extension To Integrate Insurance Deduction in Operational Risk Capital Requirement*. *Journal of Operational Risk*, 12(4), 31–49.

According to the D.Lgs 196/2003 and ex L.675/96 concerning the processing of personal data, I authorize the use of my personal data for the purposes of selection and communication.