

**PERSONAL INFORMATION** **Marco Forti**✉ [marco.forti@uniroma1.it](mailto:marco.forti@uniroma1.it)

Nationality

**WORK EXPERIENCE**2022 – Present **Lecturer**

John Cabot University  
Department of Mathematics  
Lecturer in "Statistics 1"  
Lecturer in "Statistics 2"

March 2022 – Present **Expert Statistician**

Deloitte consulting s.r.l.

Activity of research aimed to support the construction of methodological framework and the statistical computation of both qualitative and quantitative data.

November 2021 – Present **Lecturer in The Statistics of Data Science**

TIM - Telecom Italia Mobile

Course designed for firm's professionals already operating in quantitative environments aiming to deepen some theoretical and practical aspects over the following topics:

- Elements of Data Science
- Descriptive statistics
- Probability, distribution theory and inferential statistics
- Big-data analysis

2021 – Present **Researcher**

University of Rome "Sapienza"  
Faculty of Law

Project developed in association with Italian National Research Center (CNR) and National Institute for Insurance against Accidents at Work (INAIL) aimed to the construction of complex datasets and Machine Learning methods for policy impact evaluation.

2021 – Present **Monitoring committee**

University of Rome "Sapienza"  
Faculty of Medicine

Support to the activity of the monitoring committee of the faculty of Medicine of the University of Rome "Sapienza". The activity involve the following commitments: Data extraction and computation of indicators, Analysis of the indicators and evaluation of the monitoring tab, Guarantee the flow of information of the University.

2016 – 2022 **PhD student in Statistics (Methodological Statistics)**

University of Rome "Sapienza"  
Faculty of informatics engineering, data science and statistics

Research project over Dynamic Factor Models (DFM) and Bayesian nonparametric estimation of stochastic volatility with application to Financial and Macroeconomic data.

Research project over Dynamic Factor Models (DFM) and Bayesian nonparametric estimation of stochastic volatility with application to Financial and Macroeconomic data. DFM is nowadays one of the most efficient tool to manage big-data. The study of theoretical aspects and empirical computation of DFM compose the baseline of my research project, which was then applied in different environment among which particular weight is given to financial and macroeconomic (Dynamic Stochastic General Equilibrium - DSGE) applications. In detail the DSGE model I designed, identify an economy that operates in an open market framework. In such an environment, Structural DFM is an estimation technique adopted to bring model to data.

## 2018 – 2021 **Researcher Statistician**

National Agency for Regional Healthcare Services (AGENAS)  
Via Puglie 23, 00187 Rome (Italy)

The Italian National Agency for Regional Healthcare Services (AGENAS) is a non-economic public body, which mission is to provide technical and scientific support to the Italian NHS carrying out research activities and supporting the Ministry of Health, the Regions and Autonomous Provinces of Trento and Bolzano. At this Agency, I work at the Research department and at National Program of Evaluation (Programma Nazionale Esiti – PNE) with the role of Statistician. At this role, my duties are to write SAS routines and create statistical models in order to find out evidences over clinical practices and nation-wide health structures. Research activities may be developed in house or in cooperation with some national and international institutions such as Istituto Superiore di Sanità, OCSE and World Health Organization; those activities see me fully involved me at every stage.

## November 2020 – December 2021 **Lecturer in Elements of Statistics**

TIM - Telecom Italia Mobile

Course designed for firm's professionals already operating in quantitative environments aiming to deepen some theoretical and practical aspects over the following topics:

- Descriptive statistics
- Probability, distribution theory
- Inferential statistics
- Big-data analysis

## 2017 – 2018 **Econometrician/Economist**

SVIMEZ - Associazione per lo sviluppo dell'industria nel Mezzogiorno  
via di Porta Pinciana 6, 00187 Rome (Italy)

SVIMEZ is a private research centre, which supply studies in the field of economics and regional development. Such studies often constitute a benchmark for Italian Parliament and some other major State Institutions.

- Study about 2017 Parliament financial budget law: Basic income and its impact over poverty and inequality. (ISBN: 9788815273543 pag. 632, year: 2017, Ed: "Il mulino" - Chap. 6)
- Study about 2018 Parliament financial budget law and its impact over poverty, employment and inequality. (ISBN:978-88-15-27989-7, year: 2018, Ed: "Il mulino" - Chap. 6)

## 2018 **Student**

Advanced Bayesian time series  
University Pompeu Fabra, Barcelona (Spain)

Bayesian VAR methods have recently become the workhorse models for forecasting macroeconomic variables and are routinely used by central banks to inform policy decisions. The two key characteristics of these methods is the possibility of handling very large cross-section of data – thereby including a large information set to base forecasts on- and the possibility of specifying a-priori beliefs on the behaviour of macroeconomic time series.

Instructor: Gary Koop

## 2017 Student

Interuniversity School of Mathematics (SMI)  
University of Perugia - via Vanvitelli, 1 06123 Perugia (Italy)

The aim of the School is to provide young researchers, both from Italy and from abroad, with training in Mathematics and its applications in various sectors, including Physics, Computer Science, Economics and Finance, Engineering and Statistics.

At this school, I followed courses:

- Mathematical statistics
- Partial differential equations

## 2016 – 2019 Statistician

Ministries' Office (Presidenza del Consiglio dei Ministri)

Information department of the Ministry of Health is part of the National Statistics System and responsible for the collection and elaboration of data regarding Italian health system. At this office, I am responsible for the collection of raw data, creation of new indexes and computation of statistics. Project evaluation is among my duties as well. In this context, I elaborated statistics for what concerns Education, Transports, Production systems, etc. paying specific attention to country's "inner areas" (aree interne) – part of the territory which, for geographic or other reasons, is not easily reachable and missing in some basic services. Formulation of ad hoc solutions and policies is still part of my tasks. Many of the indicators I worked on needed to be traced to the ones declared by EU in the Partnership Agreement, the harmonisation of such indicators and the set-up for the ex-post policy evaluation is a core part of my duties. Such project have been designed by "Presidenza del Consiglio dei Ministry" (Presidency of the Council of Ministers) to which office I directly reported.

## 2016 – 2017 Econometrician/Modeler

KPMG international  
Via Ettore Petrolini 2, 00197 Rome (Italy)

Responsible for the quantitative analysis and modeling. In this position, I am committed in designing economic models, collecting and analyzing data, doing simulations and running statistical tests. Last project: study commissioned by AECM (European Association of guarantee institutions) which object of investigation was the impact of changes in guarantee institutions to the macro variables at both national and EU level.

## 2014 – 2016 Econometrician/Economist

Centro Europa Ricerche (CER)  
Via Giacomo Carissimi, 41, 00198 Rome (Italy)

CER is a private research center which work in the field of economics providing periodic and ad hoc analysis over: Italian and foreign conjuncture, quantitative evaluation of public policies, public finance, monetary policy, econometric modeling and macrosimulations, previdential policy, banks, etc. In this firm, I worked as economist and statistician participating to every firm's working and organizational activity.

## 2015 — 2016 Research fellow

Interuniversity School of Mathematics (SMI)  
University Sant'Anna of Pisa - Piazza Martiri della Libertà 33, 56127 Pisa (Italy)

In the above-mentioned period, I did Teaching assistance in Economics and International Economics and worked on original researches over:

- Quantitative easing
- Public finance
- Competitiveness of capital and wage
- EU policy
- Economic growth

#### 2014 **Particolarmente meritevole**

Bank of Italy  
Via nazionale 91, 00184 Rome (Italy)

“Highly Worthy” (“Particolarmente meritevole”) at the selection for the Mortara scholarship aimed to perfect Mathematics, Statistics and Econometrics methodologies.

Presentation of two research projects to Bank of Italy research centre commission:

- Macroeconomic effects of misaligned currencies: a model-based quantification The project aims at taking the model to data, in order to quantify the effects of an undervalued/overvalued currency on employment, real GDP and welfare.
- A quantitative business cycle model with financial intermediation and financial frictions Financial frictions may affect non-financial entrepreneurs, credit-constrained households, and financial intermediaries. Then the structural parameters of the model have been estimated using Bayesian methods. Given prior distributions of the parameters, posterior distributions have been drawn using the Metropolis-Hastings algorithm.

#### 2013 — 2016 **Student**

Einaudi Institute for Economics and Finance (EIEF)  
Via Sallustiana, 62, 00187 Rome (Italy)

Selected courses and workshops:

- Latent variables and finite mixture models
- Topics in VAR modelling
- EM algorithm and ML estimation of mixture models
- Job market models
- Capture recapture models

### EDUCATION, TRAINING AND AWARDS

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2016 – Present **PhD - Thesis Title: Dynamic Factor Models - developments and applications in Economics and Finance**

#### 2020 **Commendation by the General Director of AGENAS**

for the “*competence and the professionalism expressed*” in the sphere of the activities that brought to the publication of 2019 edition of National Program of Evaluation (Programma Nazionale Esiti)

#### 2018 **Advanced Bayesian time series University Pompeu Fabra, Barcelona (Spain)**

Bayesian VAR methods have recently become the workhorse models for forecasting macroeconomic variables and are routinely used by central banks to inform policy decisions. The two key characteristics of these methods is the possibility of handling very large cross-section of data – thereby including a large information set to base forecasts on- and the possibility of specifying a-priori beliefs on the behaviour of macroeconomic time series.

Instructor: Gary Koop

#### 2017 **Interuniversity School of Mathematics (SMI) University of Perugia - via Vanvitelli, 1 06123 Perugia (Italy)**

The aim of the School is to provide young researchers, both from Italy and from abroad, with training in Mathematics and its applications in various sectors, including Physics, Computer Science, Economics and Finance, Engineering and Statistics.

At this school, I followed courses:

- Mathematical statistics
- Partial differential equations

#### 2014 **Particolarmente meritevole**

Bank of Italy  
Via nazionale 91, 00184 Rome (Italy)

“Highly Worthy” (“Particolarmente meritevole”) at the selection for the Mortara scholarship aimed to pursue the studies in Mathematics, Statistics and Econometrics.

#### 2013 — 2016 **Einaudi Institute for Economics and Finance (EIEF)**

Via Sallustiana, 62, 00187 Rome (Italy)

Selected courses and workshops:

- Latent variables and finite mixture models
- Topics in VAR modelling
- EM algorithm and ML estimation of mixture models
- Job market models
- Capture recapture models

#### 2013 **Postgraduate Degree (Advanced Econometrics) - Applied economic and financial analysis**

University of Rome "Sapienza" - via castro laurenziano 9, 00161 Rome (Italy)

Thesis on labour market participation in a RBC model - drawing of a new model, Estimation, Calibration, DSGE, theoretical and empirical Impulse Response Functions (IRF), counterfactual prove using S-VECM techniques, Minimum Distance evaluation.

Overall mark 110/110

#### 2007 **Visiting student**

Visiting Student (Scottish Graduate Program in Economics)  
University of Edinburgh, Edinburgh (UK)

**PERSONAL SKILLS**

**Mother tongue** Italian

Other languages	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1
Other languages	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
Franch	A2	A2	A1	A1	A1
	Diplôme d'études en langue française (DELF) A1				
Chinese	A2	A2	A2	A2	A2
	HSK				
Spanish	A2	A2	A2	A2	A2

Levels: A1 and A2: Basic user – B1 and B2: Independent user – C1 and C2: Proficient user  
[Common European Framework of Reference for Languages](#)

**Computern skills** Solid knowledge and experience of programming in numerical languages as:  
 – SAS  
 – R and R-Studio  
 – Matlab and its application for dynamic macroeconomics Dynare  
 – Other econometric softwares as: E-Views, JMulti, S-VAR, Gretl, SPSS  
 – Working knowledge of the programs for scientific writing and editing Latex

**Organisational / managerial skills** Working experience in people management

**Other skills**  
 Big-Data analysis  
 Complex dataset construction  
 Survival analysis.  
 Knowledge of Micro and Macrosimulation models for economic forecast.  
 Experience in the analysis of Italian and international conjuncture and ad hoc macroeconomic scenarios and forecasts.  
 Policy economy analysis and evaluation its effect in both Italian and international environment

**Driving licence** A, B

## PUBLICATIONS

- “Ten-year outcomes after off-pump and on-pump coronary artery bypass grafting: an inverse probability of treatment weighting comparative study” *Journal of cardiovascular medicine* (DOI: 10.2459/jcm.0000000000001323, PMID: 35645027)
- “Drivers and frictions of workplace accidents: an empirical investigation of cross-country European heterogeneity.” *Public Finance Research 2022* hdl: 11573/1653960
- “La sicurezza sul lavoro in Italia. Un’analisi esplorativa.” *Public Finance Research 2022* hdl: 11573/1652728
- “Relationship between hospital volumes and health outcomes: epidemiological evidence supporting the revision process of the Ministry of Health Decree no. 70 of 2 April 2015” - *Recenti Progressi in Medicina* (in course of publication)
- National Program of Evaluation (2021) - the complete set of statistics and indicators published in: <https://pne.agenas.it/>
- “Impact of gender on 10-Year outcomes after coronary artery bypass grafting” - *Interactive CardioVascular and Thoracic Surgery – EURHEARTJ-D-20-05281*, doi:10.1093/icvts/ivab125
- PRIORITY (PRedict long term Outcomes after Isolated coronary arTery bypass surgery) calculator: <https://www.outcomeresearch.it/PRIORITY/>
- National Program of Evaluation (2020) - the complete set of statistics and indicators published in: <https://pne.agenas.it/>
- Lo studio PRIORITY – “Predicting long-term outcomes after isolated coronary artery bypass surgery” – *Giornale Italiano di Cardiologia* (2021 Vol. 22 N. 1 Gennaio - ISSN:1827-6806)
- “Indicatori PNE: ieri, oggi e domani” – *MONITOR* - ISSN:2282-5975 vol. 1/2020
- “Trends in mortality and heart failure after acute myocardial infarction in Italy from 2007 to 2017” – Poster exposed at 16th World congress on Public Health
- “Bilateral internal thoracic artery grafting in coronary surgery: 10-year outcomes” – Poster exposed at 16th World congress on Public Health
- “Health performance evaluation of the Italian hospital care system” – Accepted as poster at 16th World congress on Public Health
- “Hospital management of patients with acute coronary syndrome: influence of age and gender” – Poster exposed at 16th World congress on Public Health
- “Long-term outcome after off-pump coronary artery bypass grafting: implication for public health” – Poster exposed at 16th World congress on Public Health
- National Program of Evaluation (2019) - the complete set of statistics and indicators published in: <https://pne.agenas.it/>
- Study about 2018 Parliament financial budget law and its impact over poverty, employment and inequality. (ISBN:978-88-15-27989-7, year: 2018, Ed: “Il mulino” - Chap. 6)
- Study about 2017 Parliament financial budget law: Basic income and its impact over poverty and inequality. (ISBN: 9788815273543 pag. 632, year: 2017, Ed: “Il mulino” - Chap. 6)
- “The impact of the oil price over Italian economy: a structural-VAR analysis”, Chapter in *International conjuncture report 2014 – CER*.
- *Rapporto Europa 2015: Capital and wage competitiveness of EU and non-EU countries, Monetary policy and quantitative easing, etc.* With S. Collignon