#### Curriculum Vitae<sup>1</sup>

#### Massimo Franchi

## **Personal Information**

Date and place of birth: 27/02/1974 Lavagna (GE), Italy.

Office address: Dipartimento di Scienze Statistiche, Università di Roma "La Sapienza", P.le A. Moro 5 00185 Rome, Italy.

Web-page: http://w3.uniroma1.it/mfranchi/. E-mail: mas dot franchi at gmail dot com.

### Current position

Assistant professor at University of Rome "La Sapienza".

#### Education

**July 2004:** Ph.D. in Economics, Department of Economics, Faculty of Statistics, University of Rome "La Sapienza". Title of the thesis: "*Identification through qualitative a priori restrictions*". Supervisor: Prof. Marco Lippi.

August 2001: Scuola Matematica Interuniversitaria (SMI), Perugia. Courses and grades: Probability (A) and Complex Analysis (B).

July 2000: M.Sc. in Economics, Universitat Pompeu Fabra, Barcellona. April 1999: B.A. with honors in Economics, Faculty of Economics, Uni-

versity of Rome "La Sapienza". Supervisor: Prof. Giancarlo Gandolfo.

#### Foreign languages

English (very good written and oral skills), Spanish (very good written and oral skills).

## Research interests

Econometrics, in particular multivariate time series, common features, non stationarity and cointegration, co-dependence.

#### Software

Writing: LATEX.

Mathematics: Maple, Mathematica, Matlab, Octave, Maxima. Econometrics: Cats, E-Views, Gauss, Gretl, R, Rats, Stata.

<sup>&</sup>lt;sup>1</sup>Updated on the March 22, 2010.

### Grants, visiting positions and fellowships

October 2007 - September 2009: Carlo Giannini Fellow in Econometrics, University of Insubria, Varese, in collaboration with Prof. Paolo Paruolo.

**February - May 2007:** Visiting Associate Professor, Institute for Mathematical Sciences, University of Copenhagen.

October 2006 - January 2007: Visiting Professor, Department of Economics, Universitat Jaume I, for the project: "Application of STAR and STAR-GARCH models to economic data", in collaboration with Prof. Javier Ordóñez Monfort.

September 2005 - August 2006: Assistant Research Professor (Post Doc), Department of Economics, University of Copenhagen.

July 2005 - July 2007: Renewal of Post Doc fellowship in Econometrics, Department of Economics, University of Rome "La Sapienza".

**January - July 2004:** Marie Curie fellowship, Department of Economics, University of Copenhagen, for the project: "*Identification issues in the Cointegrated VAR model*". Faculty member: Prof. Katarina Juselius.

July 2003 - July 2005: Post Doc fellowship in Econometrics, Department of Economics, University of Rome "La Sapienza", for the project: "The econometrics of cointegration". Faculty member: Prof. Enrico Zaghini.

March 2002 - January 2004: CONSOB fellowship (first classified), for the project: "Empirical analysis of Alternative Trading Systems (ATS)". CONSOB member: Dott. Barbara Leoni.

October 2000 - June 2003: Ph.D. fellowship (first classified), Department of Economics, University of Rome "La Sapienza".

September 2000 - November 2000: Economist, Research Department, San Paolo Imi Bank.

**September 1999 - July 2000:** Fondazione Luigi Einaudi fellowship, M.Sc. in Economics at Universitat Pompeu Fabra, Barcelona.

#### Work in progress or under revision (from the most recent onwards)

- (1) with P. Paruolo, "Stochastic cycles in VAR processes", 2009.
- (2) with P. Paruolo, "Subspace duality in the inversion of square matrix polynomials", 2009.
- (3) with J. Ordóñez, "Multiple equilibria in Spanish unemployment", 2008, submitted.
- (4) "Un-hiding roots in vector autoregressive processes", 2008.
- (5) "On the representation theory of fractional processes", 2006.
- (6) "General unit roots structures: representation theory", 2006.
- (7) "A note on Lemma 1 in Granger Representation theorem", 2006.
- (8) "Is the U.S. Current Account Deficit Sustainable? Evidence from a Cointegrated VAR model", 2005.

# Discussion papers and publications

- (1) with P. Paruolo, A characterization of vector autoregressive processes with common cyclical features (2010), forthcoming in Journal of Econometrics.
- (2) A representation theory for polynomial cofractionality in vector autoregressive models (2009), forthcoming in Econometric Theory.
- (3) with J. Ordóñez, Common smooth transition trend-stationarity in European unemployment (2008), Economics Letters 101(2), p.106-109.
- (4) with K. Juselius, Taking a DSGE model to the data meaningfully (2007), Economics: The Open-Access, Open-Assessment E-Journal, vol.1, http://www.economics-ejournal.org/economics/journalarticles/2007-4.
- (5) The integration order of vector autoregressive processes (2007), Econometric Theory 23(3), p.546-553.
- (6) A general representation theorem for integrated vector autoregressive processes (2006), Discussion paper University of Copenhagen Institute of Economics n.06-16.
- (7) Econometria (2006), in Enciclopedia Italiana Treccani XXI Secolo.
- (8) with G.Cerulli, The role of a priori knowledge in business-cycle measurement (2005), *Congiuntura*, n.40, pag.61-87.
- (9) A priori inequality restrictions and bound analysis in VAR models (2004), Discussion paper University of Copenhagen Institute of Economics n.04-14.
- (10) Best execution, multiple trading venues e sistemi of scambi organizzati: alcune considerazioni generali ed un'analisi empirica del mercato dei Titoli of Stato (2003), Quaderni of Finanza CONSOB n.56.
- (11) A non causal identification scheme for vector autoregressions (2002), Department of Economic Science Discussion Paper n.41.
- (12) Fondamenti teorici della politica monetaria: perche' la politica of inflation targeting è ottimale? (2000), *Annali Fondazione Luigi Einaudi*, vol.XXXIV, pag.31-54.

#### Conferences

- (1) "Stochastic cycles in VAR processes", Conference in Memory of Carlo Giannini, Roma, January 2010.
- (2) "A characterization of VAR with common cyclical features", Econometrics, Time Series Analysis and Systems Theory, Conference in Honor of Manfred Deistler, Wien, June 2009.
- (3) "——", ICEEE, Ancona, January 2009.
- (4) "———", Factor Structures for Panel and Multivariate Time Series Data Conference, Maastricht, September 2008.
- (5) "——", NBER-NSF Time Series Conference, Århus, September 2008.
- (6) "A representation theory for polynomial cofractionality in vector autoregressive models", European Econometric Society Meeting (ESEM), Milano, August 2008.

- (7) "———", Conference in Memory of Carlo Giannini, Bergamo, January 2008.
- (8) "——,", Tinbergen Institute Conference, Rotterdam, March 2007.
- (9) "——", Italian Congress of Econometrics and Empirical Economics (ICEEE), Rimini, January 2007.
- (10) "The integration order of vector autoregressive processes", European Econometric Society Meeting (ESEM), Vienna, August 2006.
- (11) "A general representation theorem for integrated vector autoregressive processes", Summer Econometric Workshop, Århus, August 2006.
- (12) "The integration order of vector autoregressive processes", Cointegrated VAR model: methods and applications, Copenhagen, June 2006.
- (13) "A priori inequality restrictions and bound analysis in VAR models", Italian Congress of Econometrics and Empirical Economics (ICEEE), Venezia, January 2005.
- (14) "----", Riunione Annuale della Società Italiana degli Economisti (SIE), Bologna, October 2004.
- (15) "———", Econometric Methods for the Modelling of Nonstationary Data, Policy Analysis and Fhourscasting (EMM) Annual Conference, Alghero, September 2004.
- (16) "———", Econometric Study Group (ESG) Annual Conference, Bristol, July 2004.
- (17) "A non causal identification scheme for vector autoregressions", Statistical Modelling of Discrete Structures in Economics: Methods and Applications, Munich, June 2003.
- (18) "——", Spring Meeting of Young Economists (SMYE), Leuven, April 2003.
- (19) "——", Computing in Economics and Finance (CEF), Aix-en-Provence, June 2002.
- (20) "Monetary policy: empirical issues", Workshop on Monetary Policy Theory, Catholic University of Milano, December 2001.

## Seminars

- (1) "A characterization of VAR with common cyclical features", EIEF, Rome, November 2009.
- (2) "——", Joint Research Centre, Ispra , October 2008. (3) "——", Università di Padova, September 2008.
- (4) "———", University of Copenhagen, September 2008.
- (5) "Taking a DSGE model to the data meaningfully", University of Insubria, October 2007.
- (6) "A representation theory for polynomial cofractionality in vector autoregressive models", University of Maastricht, January 2007.
- —", Ente Luigi Einaudi, Rome, December 2006.
- (8) "The integration order of vector autoregressive processes", Universitat Jaume I, Castellon de la Plana, October 2006.
- (9) "——", Università Cattolica di Milano, May 2006.
  (10) "——", University of Århus, May 2006.
  (11) "——", University of Verona, April 2006.

- (12) "——", University of Insubria, Varese, March 2006.
- (13) "——", Department of Applied Mathematics and Statistics, University of Copenhagen, March 2006.
- (14) "A priori inequality restrictions and bound analysis in VAR models", University of Urbino, April 2005.
- (15) "——", University of Brescia, April 2005.
- (16) "——", University of Lecce, April 2005.
- (17) "———", Universitat Jaume I, Castellon de la Plana, October 2004.
- (18) "——", University of Pisa, June 2004.
- (19) "——", Centre for Applied Microeconometrics (CAM) seminar, University of Copenhagen, June 2004.

## Teaching

March 2010: Econometrics (9 ECTS), University of Rome "La Sapienza". October 2009: Laboratorio di Statistica Aziendale (6 ECTS) and Econometrics I (Ph.D., 20 hours), University of Rome "La Sapienza".

October 2008: Econometrics I (Ph.D., 18 hours), University of Rome "La Sapienza".

**June 2008:** Cointegration (Ph.D., 12 ore), CIdE Summer School in Econometrics (Bertinoro).

**December 2007** Advanced Financial Econometrics (Master, 14 hours) with Paolo Paruolo, University of Insubria.

**December 2007:** Econometrics I (Ph.D., 28 hours), University of Rome "La Sapienza".

May 2007: Advanced Econometrics: Cointegration (Master, 16 hours) with Anders Rahbek, University of Copenhagen.

February 2007: Econometrics I (BA, 35 hours), University of Copenhagen. December 2006: Econometrics I (Ph.D., 28 hours), University of Rome "La Sapienza".

**July 2006:** Teaching Assistant (40 hours) at MATLAB Summer School (Prof. Ulrich Woiteck), University of Lecce.

April 2006: Cointegration (Ph.D., 15 hours), University of of Lecce.

**July 2005:** Teaching Assistant (40 hours) at MATLAB Summer School (Prof. Ulrich Woiteck), University of Lecce.

May 2005: Cointegration (Ph.D., 8 hours), University of Rome "La Sapienza". April 2005: Cointegration (Ph.D., 8 hours), University of Lecce.

October, December 2004: Econometrics I (Ph.D., 48 hours), University of Rome "La Sapienza".

October, December 2003: Econometrics I (Ph.D., 48 hours), University of Rome "La Sapienza".

**December 2002:** Pre-course of Matematichs (Ph.D., 6 hours) for Microeconomics III (Prof. Gaetano Bloise), University of Rome "La Sapienza".

October, December 2002: Teaching Assistant (Ph.D., 20 hours) of Microeconomics I (Prof. Luigi Ventura), University of Rome "La Sapienza".

**February, April 2002:** Teaching Assistant (Master, 12 hours) of Macroeconomics (Prof. Mauro Gallegati), ICSIM.

March 2002: Teaching Assistant (Ph.D., 4 hours) of Macroeconomics (Prof. Claudio Sardoni), University of Rome "La Sapienza".

October, December 2001: Teaching Assistant (Ph.D., 20 hours) of Microeconomics I (Prof. Luigi Ventura), University of Rome "La Sapienza".

## References

Søren Johansen, University of Copenhagen. Paolo Paruolo, European Commission JRC & Università dell'Insubria. Marco Lippi, Università di Roma "La Sapienza".