Paolo Zaffaroni

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Personal

- Born 22nd October 1967; Italian citizenship; Married; Three children.
- Languages: Italian (mother tongue); English.

Current Post

- Full Professor in Financial Econometrics, (2010-), Imperial College Business School, Imperial College London.
- Instructor for:
  - Financial Statistics, MSc Risk Management and Financial Engineering (average teaching evaluation 4.5 out of 5; maximum 4.75 out of 5);
  - Empirical Asset Pricing, PhD programme.
  - Financial Modelling (teaching evaluation 4.6 out of 5) .

PhD supervision

- Adam Golinski, PhD title " Long Memory Processes in Asset Pricing", completed, now at University of York.
- Georgia Papadaki, PhD title "Model Averaging for Option Pricing and Asset Allocation". completed, now at Liberty Insurance.
- Nikhil, Shenai, PhD title "The Impact of Durations and Cointegration on Asset Valuation", completed.
- Julia, Arnold, PhD title "The Performance Persistence, Flow and Survival of Systematic and Discretionary Commodity Trading Advisors (CTAs)", completed.
- Valentina Raponi, PhD title "Economic Value, Diversifiability and No-Arbitrage for Mean-Variance Strategies in Large Asset Market", starting July 2013.

University Education

- **Ph.D. Economics**, (1997). London School of Economics, Thesis title “Nonlinear long memory models with applications in finance”. Supervised by Professor Peter M. Robinson.
- **Master in Econometrics and Mathematical Economics**, (1993). London School of Economics. Awarded with *Distinction*.
- **Laurea in Economic Statistics**, (1991). Universita’ di Roma “La Sapienza”.
  Awarded *Summa cum Laude (it.* 110/110 *e lode).* Supervised by Professor Luigi Spaventa.

Grants, Awards and Prizes

- **ESRC grant RES-000-22-3219** , Principal Investigator, approx GPB 100K, on “Estimation of parametric linear factor models: theory and applications”, awarded October 2008.
- **European Community**: *Human Capital Mobility fellowship* (1994-1995).
- **Banca d’Italia**: *Bonaldo Stringher fellowship* (1993).
- **London School of Economics**: *Ely Devons prize.* Awarded for outstanding performance *(scored 1st out of 25 students)* in M.Sc. Econometrics and Mathematical Economics (1993).

Academic Achievements

- **Ranked** 51**st** in the ranking of individuals by theoretical econometrics publications based on standartized page counts 2000-2005 (top within Imperial College London), in Badi Baltagi, “Worldwide Econometrics Rankings: 1998-2005” Econometric Theory, 23, 2007, pp 952-1012.
- **Fellow** of the *Journal of Econometrics*, (2009-). Awarded on the basis of the total number of pages published and single-authored articles.
- **Invited speaker** Rencontre, Analyse des Series Temporelles et Applications, Marseille, France, 2003.
- **Invited speaker** at the Latin American Meeting of the Econometric Society, Mexico City, November 2007.
- **Invited speaker** at Conference on Statistical Models for Financial Data II, Graz, May 2007.
- **Invited speaker** at NBER-NSF Time Series Conference, Aarhus, September 2008.
- **Invited speaker** at the Chicago-London Conference 1: “What Went Wrong? Financial Engineering, Financial Econometrics, and the Current Stress”, London, December 2008
- **Invited speaker (plenary talk)** at conference on ”Challenges for Risk Management - Measuring Future Risk”, London, February 2009.
- **Invited speaker (plenary talk)** at ”FIancE STAtistique” conference, Ecole Polytechnique Paris, June 2009.

- **Invited speaker** at QASS Conference in Financial Econometrics, London, June 2009.
- **Invited speaker** at Cowles Foundation Econometrics Conference on "Handling Dependence: Temporal, Cross-sectional, and Spatial", Yale, June 2009.
- **Invited speaker** at NBER Summer Institute, Working Group on Empirical in Macroeconomics and Finance, Boston, July 2009.
- **Invited speaker** at the Chicago-London Conference 3: "Factor Models in Finance", London, December 2009
- **Invited speaker (plenary talk)** at the Mona School of Business Roundtable 2010 "Managing Risk for Growth Development", Kingston (JAM), March 2010
- **Invited speaker** at NBER Summer Institute, Working Group on Empirical in Macroeconomics and Finance, Boston, July 2011.
- **Invited speaker** at Princeton University, Bendheim Center for Finance, "Measuring Risk", October 7-8, 2011.
- **Invited speaker (plenary talk)** at Heidelberg University, "Macro and Financial Econometrics Conference", September 29-30, 2011.
- **Invited speaker** at University of Toulouse, 2012 Financial Econometrics Conference, September 8-10, 2012.
- **Invited speaker** at University of Graz, "Statistical models for financial data III", May 23-25, 2012.
- **Invited speaker** at the Society of Financial Econometrics meeting Large-scale Factor Models in Finance, Lugano, October 2013.
- **Invited speaker** at University of Toulouse, 2012 Financial Econometrics Conference, May 21-22, 2015.
- **Invited speaker** at Asian Econometric Society Meeting, Kyoto, August 2016.
- **Invited speaker (plenary talk)** at WieCo Financial Econometrics Conference 2017, Vienna, March 2017.
- **Invited speaker (forthcoming)** at FERM2018 Financial Engineering and Risk Management International Symposium, Shanghai, June 2018.
- **Invited speaker (forthcoming)** at SOFIE 2018 Society of Financial Econometrics, Lugano, June 2018.
- **Speaker** at the Society of Financial Econometrics annual meeting, Oxford, June 2012.
- **Speaker** at NBER Summer Institute, Working Group on Empirical Finance, July 2015.
- **Speaker** at Hedge Fund Conference, Imperial College Business School, December 2015.
- **Speaker** at Hedge Fund and Private Equity Conference, January 2016.
- **Speaker** at Western Finance Association (WFA), June 2016.
- **Speaker** at NBER-NSF, September 2016.
- **Speaker** at Enquire, November 2016.
- **Speaker** at American Finance Association (AFA), January 2017.

Other affiliations

- Fellow, Imperial Business Analytics Center, (2017-).
- Fellow, Center for International Macroeconomics and Finance, University of Cambridge (2006-).
- Adjunct Professor, University La Sapienza, Rome, (2009-).

Former Posts

- Head of the finance group, (2010-2014), Imperial College Business School, Imperial College London.

  Under my leadership, the group's composition reached 22 academic faculty members, nearly doubling in size from inception. At the same time, during my tenure the School launched the Brevan Howard Center and appointed Douglas Gale and Franklin Allen. As chair, I was an effective member of the School Management Board, where are all the strategic decisions are taken.
- **Reader in Financial Econometrics**, (2005-2010), Imperial College Business School, Imperial College London.
- **Economist (Funzionario di 2nda)**, capital markets and econometric modelling units, Servizio Studi, Banca d'Italia, (1998-2005).
- **Senior research officer**, (2001 and 2003), Department of Applied Economics, University of Cambridge.
- **Lecturer in Finance**, (1997), Department Finance, London School of Economics (resigned after one year to move to Italy).

Research Interest

- **Financial Econometrics**: volatility modelling, inference and forecasting;
- **Asset Allocation and Risk Management**.
- **Theoretical Econometrics:** long memory, aggregation, model-averaging, parametric estimation of dynamic factor models for large cross-sections, panel estimation.

Research Output

Published

- "Modelling nonlinearity and long memory in time series", with Peter M. Robinson, in *Nonlinear Dynamics and Time Series*, ed. by C.Cutler and D.Kaplan, American Mathematical Society, 1997.
- "Nonlinear time series with long memory: a model for stochastic volatility", with Peter M. Robinson, *Journal of Statistical Planning and Inference*, 68, 359-371, 1998.
- "(Fractional) Beta convergence", with Claudio Michelacci, *Journal of Monetary Economics*, 45(1), 129-53, 2000.
- "The long range dependence paradigm for macroeconomics and finance", with Marc Henry,ed. by Doukhan, Oppenheim and Taqqu, *Long range dependence: theory and applications*, Birkhauser, 2003.

- "Gaussian inference on certain long-range dependent volatility models", *Journal of Econometrics* , **115**, 199-258, 2003.
- "Stationarity and memory of ARCH(∞) models", *Econometric Theory*, **20**, 147-160, 2004.
- "Contemporaneous aggregation of linear dynamic models in large economies", *Journal of Econometrics* , **120**, 75-102, 2004.
- "Pseudo-maximum likelihood estimation of ARCH(∞) models", with Peter M. Robinson, *Annals of Statistics.*, **34**, 1049-1074, 2006.
- "Memory and aggregation for models of changing volatility ", *Journal of Econometrics.*, **136**, 237-249, 2007.
- "Contemporaneous aggregation of GARCH processes", *Journal of Time Series Analysis* , **28**, 521-544, 2007
- "A goodness of fit test for GARCH models ", with Javier F. Hidalgo, *Journal of Econometrics*, **141**, 835-875, 2007.
- "Estimating and forecasting volatility with large scale models: theoretical appraisal of professionals' practice", *Journal of Time Series Analysis*, **29**, 581-599, 2008.
- "Model averaging in risk management with an application to futures markets", with M. Hashem Pesaran and C. Schleicher, *Journal of Empirical Finance* **16**, 280-305, 2009.
- "Whittle estimation of EGARCH and other exponential volatility models", *Journal of Econometrics*, **151**, 190-200, 2009.
- "Can aggregation explain the persistence of inflation in the Euro area?", with Filippo Altissimo and Benoit Monjon, *Journal of Monetary Economics* , **56**, 231-241, 2009.
- "On moment conditions for quasi-maximum likelihood estimation of multivariate ARCH models", with M. Avarucci and E. Beutner, *Econometric Theory* forthcoming, 2012.
- "Dynamic factor models with infinite-dimensional factor space: one-sided representations", with M. Forni, M. Hallin and M. Lippi, forthcoming *Journal of Econometrics*, 2015.
- "Long memory affine term structure models", with Adam Golinski, forthcoming *Journal of Econometrics*, 2016.
- "Asymptotic Theory for Spectral Density Estimates of General Multivariate Time Series", with Wei Biao Wu, forthcoming *Econometric Theory*, 2017.
- "Dynamic factor models with infinite-dimensional factor space: estimation", with M. Forni, M. Hallin and M. Lippi, forthcoming *Journal of Econometrics*, 2017.
- "Testing Beta-Pricing Models in Large Cross-Sections", with C. Robotti and V. Raponi, Revise and Resubmit, 2018.

In preparation/to be submitted

- "Robust Portfolio Choice", with R. Uppal, 2018 in preparation for submission.
- "Almost Efficient Estimation of Large Panels with Factor Structuress", with M. Avarucci, 2018, in preparation for submission.
- "Towards understanding the relationship between aggregate fluctuations and individual heterogeneity", with F. Altissimo and M. Avarucci, 2017, in preparation for submission.
- "Beyond the Bound: Pricing Assets with Misspecified Stochastic Discount Factors", with R. Uppal and I. Zviadadze, 2018.
- "Conditional Asset-Pricing Models: Estimation and Testing when the Cross-Sections is Large", with V. Raponi, 2018.
- "Testing for Spurious Factors in Large Cross-Sections", with V. Raponi, 2018.
- "Co-movement of volatility: representation, estimation and testing", with R. Pedersen and A. Rahbek 2015.

Corporate Engagements

- Associazione Nazionale Istituti d'Assicurazione (Italian equivalent of ABI), Board Member of Scientific Committee, (2006-).
- Epsilon Asset Management, Tactical Asset Allocation Group, (2005-2006),
- Barclays Wealth, Quantitative Analytic Group (2007).
- Executive education: Banca di Roma (financial econometrics), ANIA, Royal Bank of Scotland (portfolio and risk management), ENI shipping and trading (financial econometrics), Pioneer LLP.
- Quaestio Capital LLP, Head of Research and founding member (2010-2014).
- Selfiewealth LTD, Board member (2017-).

Other Professional Activities

- Programme Director for MSc Risk Management and Financial Engineering, Imperial College Business School, (2006-2009).
- Workshop on "Advances in Portfolio Optimization", Organizer, Imperial College Business School, 2008 and 2010.
- European Meeting of the Econometric Society (ESEM), Programme Committee, 2006.
- Latin American Meeting of the Econometric Society (LAMES), Programme Committee, 2007.
- ESRC official peer reviewer, (2010-).
- Referee for:
  Annals of Statistics, Econometrica, Econometric Theory, Econometrics Journal, Journal of the American Statistical Association, Journal of Applied Econometrics, Journal of Business & Economic Statistics, Journal of Econometrics, Journal of Financial Econometrics, Journal of Empirical Finance, Journal of Forecasting, Journal of Time Series Analysis, Journal of the Royal Statistical Society, International Economic Reviews, Quantitative Finance, Review of Economic Studies, Review of Economics and Statistics

London, January 2018