Daniel Mantilla Garcia, PhD

Research Associate

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Daniel Mantilla Garcia is head of research at Optimal Asset Management and research associate at EDHEC-Risk Institute. His current research focus is disentangling the sources of risk and return of smart beta strategies, and designing factor investing strategies that better match the needs and preferences of different investors. Daniel was previously heading the R&D department of Koris International, where he developed new dynamic allocation strategies for absolute and relative loss control. His work has also focused in studying aggregate idiosyncratic volatility and return predictability in the stock market, and his research has been published in peer-reviewed journals such as the Journal of Financial and Quantitative Analysis, the Journal of Investment Management, and Algorithmic Finance. Daniel holds a PhD in Finance (EDHEC Business School, France), a Master's Degree in Risk & Asset Management (EDHEC Business School, France) and an Industrial Engineering Degree with major in Statistics and Operations Research (Los Andes University, Colombia).

EDUCATION

2008 – 2011	**PhD in Finance** EDHEC Business School – Nice, France • Area of Study: Financial Econometrics and Asset Pricing • Thesis topic: Return Predictability, Idiosyncratic Risk. • Advisers: Professors René Garcia and Lionel Martellini • Assessment Committee: Ravi Bansal (Duke), Raman Uppal and René Garcia.
2006-2007	**Msc., Risk and Asset Management** EDHEC Business School – Nice, France • Area of Study: Investments, Risk Management and Financial Risk Modeling • Thesis Topic: Extreme Risk Portfolio Optimization
2001- 2005	**Industrial Engineering** (Bac +5)[1] Universidad de Los Andes – Bogota, Colombia • Major: Operations Research and Statistics

[1] Five years degree program including dissertation

- Minor: Finance
- Option Diploma in Applied Mathematics[2]
- Option Diploma in Economics
- Thesis: International oil price (WTI) analysis with Extreme Value Theory.

PROFESSIONAL EXPERIENCE

10/2014-Present **Head of Research**
Optimal Asset Management, Los Altos, California, United States

10/2011-Present **Research Associate**
EDHEC-Risk Institute, Nice, France

10/2011-08/2014 **Head of Research & Development**
Koris International – Sophia Antipolis, France
- Leading a team of financial engineers in research projects on quantitative asset allocation, equity portfolio optimization, assets risk modeling and alternative investments.
- Introducing new dynamic asset allocation strategies integrating risk-management objectives, such as relative drawdown and excess drawdown control.
- Developing forward-looking tail-risk estimates to enhance robustness and performance of risk control strategies.
- Creating new implementation protocols for quantitative asset allocation models such as the risk-based rebalancing.

07/2010-08/2011 **Research and Development Engineer**
Koris International – Sophia Antipolis, France
- Software developing of customizable ALM asset allocation strategies for Private Wealth Management.
- Improving dynamic asset allocation techniques for absolute return strategies.
- Support for quantitative asset allocation and risk management consulting projects for several European investment funds.

01/2008-06/2010 **Research Assistant**
EDHEC-Risk Institute – Nice, France
- Research assistance for Dr. Martellini in Robust Equity Portfolio Construction Research Project: Journal of Portfolio Management, 2008 paper: "Towards the design of better equity benchmarks: Rehabilitating the tangency portfolio from modern portfolio theory".
- ALM Simulation Software developing for testing Quantitative Risk management and Asset allocation strategies.

2 The Option Diploma is equivalent to an extra minor area

06/2007-12/2007 **Intership** (followed by Lionel Martellini)
EDHEC-Risk Institute – Nice, France
- Research Assistance for papers on Asset Pricing and equity portfolio construction with intensive stochastic volatility modeling.
- Simulation Software developing for testing Quantitative Risk Management and Asset Allocation strategies.

2004-2006 **Financial Consultant, Analyst**
Advance Consultores – Bogota, Colombia
- Valuation of Electric Grid infrastructure project.
- Determining the impact of energy-price regulation on two particular firms.
- Data Bases handling and performing firm/sector comparative financial analysis.
- Working in team with economists, engineers and lawyers.

PUBLICATIONS

with Garcia R. and Martellini L., A Model-Free Measure of Aggregate Idiosyncratic Volatility and the Prediction of Market Returns, Vol. 49, No. 5, Oct. 2014 in the Journal of Financial and Quantitative Analysis.

Dynamic Allocation Strategies for Absolute and Relative Loss Control, forthcoming in Algorithmic Finance (2014), 3:3-4, 209-231 .

Growth Optimal Portfolio Insurance for Long-Term Investors, forthcoming in the Journal Of Investment Management. ssrn. Edhec-Risk wp.

Dynamic-Allocation-Based Portfolio Insurance for Long-Term Investors in Research for Institutional Money Management, A Supplement to Pensions & Investments, vol. 1, No. 4, August 2014.

Essays on Idiosyncratic Risk and Return Predictability, PhD Thesis, EDHEC Business School , November 2011.

Optimal portfolio choice : An Extreme Risk Management Approach, Cahiers du Centre N.3, Centre de Professions financiers, October 2008.

WORKING PAPERS

with Bonelli M., A Predictive System with Heteroscedastic Expected Returns and Economic Constraints, 2014.

with Bonelli M., Should a Skeptical Portfolio Insurer Use an Optimal or a Risk-Based Multiplier?, 2014. ssrn. Edhec-Risk wp.

with Emilien Audeguil, Tail-Risk Tracking Error Estimation with Copulas and Implications for Portfolio Insurance, 2014 with Vaidyanathan V., Predicting Stock Returns in the presence of Uncertain Structural Changes and Sample Noise, Presented at the 2nd International Workshop of the ERCIM, Cyprus, October 2009.

Analisis del Precio Internacional del Petroleo con la Teoria del Valor Extremo, Presented at the Industrial Engineering Seminar, Universidad de los Andes, Bogota, December 2005.

CONFERENCES & TEACHING

Guest Lecture in Msc. course "Advanced Topics in Finance II - Asset Allocation". Birkbeck College, University of London. January 2013.

Conference talk on "Efficient Risk Transfer under Solvency II". EDHEC-Risk Days Europe. London, March 2013.

Conference talk on "Advances in Dynamic Risk Control". EDHEC-Risk Days Europe. London, March 2012.

Seminar talk on "Optimal Portfolio choice : an integrated extreme risk management approach". Petits-déjeuners of the French Association of Asset and Liability Managers (AFGAP), April 2008.

LANGUAGES

- **English**: Fluent
- **French**: Fluent
- **Italian**: Spoken (Fluent)
- **Spanish**: Mothertongue

SOFTWARE SKILLS

Programming:

- Matlab, R, UNIX, Excel/VBA, Latex.

Data Bases:

- CRSP, WRDS, Bloomberg, Datastream.

AWARDS

- PRMIA (Professional Risk Managers' International Association) and AFGAP (Association Française des Gestionnaires Actif-Passif) award for best Msc. thesis in Economics and Finance contest : « Concours des mémoires de l'économie et de la finance », Paris, 2008.
- Edhec Foundation Scholarship, 2006, 2007
- Edhec-Olympia Alternative Investments, 2006 Scholarship, summer seminar.
- French citizenship (30th May, 2013)