

## Hayette GATFAOUI

IÉSEG School of Management; Finance, Audit & Control Department

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### **CURRENT POSITION(S)**

Associate professor of finance at IÉSEG School of Management (since September 2015).

Associate Researcher at the “Centre d'Economie de la Sorbonne” (CES), “UMR-8174 du CNRS”, University Paris 1 Panthéon-Sorbonne (from February 2013).

### **PREVIOUS POSITIONS**

2005-2015 Associate professor of finance at NEOMA Business School (from January 2005)

2010-2013 Member of the Promotion, Career and Valuation Committee at Rouen Business School.

2004 Lecturer at Rouen Business School (4 months) and master lectures in Financial Instruments and Markets at University Paris I (2 months).

2001-2003 Research Fellow and lecturer in Economics at University Paris I.

1998-2001 Assistant lecturer in Economics at University Paris I.

### **Fellowships**

2007 Invited fellow by professor Tony Hall at the University of Technology of Sydney (UTS), from 20 July to 20 August 2007 in the Quantitative Finance Research Centre (QFRC), School of Finance and Economics, Faculty of Business. Joint research work with professor Steve Satchell from Trinity College in Cambridge, entitled “Distributional Results for Volatility Swap Payouts, Their Links With Extreme Value Theory, And Their Implications for Swap Prices.”

2004 Invited fellow by professor Tony Hall at the University of Technology of Sydney (UTS), from 15 January to 15 April 2004 in the Quantitative Finance Research Centre (QFRC), School of Finance and Economics, Faculty of Business.

### **Consulting and training**

2005 Risk management and stock portfolio performance assessment (*Consulting*)

(7 months) GROUPE SMA BTP (INSURANCE COMPANY, FRANCE), MANAGEMENT RESEARCH DEPARTMENT (114 AVENUE EMILE ZOLA - 75739 PARIS CEDEX 15)

2000 Supply and demand effects on US corporate bonds' default risk (*Consulting*)

(5 months) CDC-IXIS CAPITAL MARKETS, MANAGEMENT OF ECONOMIC STUDIES (56, RUE DE LILLE - 75007 PARIS)

- (2 months) Business cycle's impact on failures of French small and medium enterprises over 1990-1999 (*Consulting*)  
 ABN – AMRO BANK IN FRANCE (3, AVENUE HOCHE - 75008 PARIS)  
 RISK MANAGEMENT DEPARTMENT
- 1998 Correlations, sovereign spreads and default risk's measure in emerging markets  
 ( 2 months ) BANQUE OF FRANCE ( 39, RUE CROIX DES PETITS CHAMPS - 75001 PARIS )  
 INTERNATIONAL CAPITAL MARKETS DEPARTMENT
- 1996 Fixed Rate Instruments' Valuation and Hedging Software  
 (4 months) C.A.R – BANK OF FRANCE SUBSIDIARY (33, RUE DE MOGADOR - 75009 PARIS )  
 Software's migration from Unix to Excel 5: Building of a user interface, results' adjustments, and application to hedging strategies for various financial instruments on the French financial market (MATIF).

## **EDUCATION**

- 2010 HDR in Economics – University of Cergy-Pontoise (Accreditation for Ph.D. and research supervision)
- 2002 Ph.D. in Economics – Université Paris I – Panthéon-Sorbonne
- 1998 MSc. in Money, Finance, and Banking – University of Paris I Panthéon-Sorbonne. Memoir topic: ' Term structure of interest rates: evolution and modeling '. (1 year)
- 1996 MSc. in Statistics and Random Modeling in Economics and Finance – University Denis-Diderot (Paris 7- Jussieu).
- 1995 Master in Applied Mathematics and Statistics (e.g. mathematical and parametric statistics, linear modeling) – University Pierre and Marie Curie (Paris 6).

**IT SKILLS:** MS Office, Access, LaTeX; C/C++, Eviews, Gauss, Matlab, RATS, SAS, Stata, Turbo Pascal.

## **PUBLICATIONS AND RESEARCH**

**Accreditation for Ph.D. and Research supervision (HDR): Systematic Risk, Idiosyncratic Risk, Liquidity Risk, and Stochastic Volatility: What is the Impact on Asset Valuation?** Defended on 22 NOVEMBER 2010 at the University of Cergy-Pontoise.

Advisor: Professor Jean-Luc Prigent

Jury members: Professors Ephraïm CLARK, Georges GALLAIS-HAMONNO, Monique JEANBLANC, André LAPIED, Patrice PONCET, Jean-Luc PRIGENT, Patrick ROGER.

**Ph.D. thesis: Valuation and Analysis of Financial Assets' Default Risk** defended on 29 November 2002 at the University Paris I – Panthéon-Sorbonne

Distinction: Very honorable with congratulations of the jury and proposal for a printing grant.

Supervisor: Professor Thierry Chauveau

Jury members: Professors Monique Jeanblanc, Jean-Pierre Laffargue, Michael Rockinger, Patrick Roger; Henri Pagès, Scientific Advisor, Fondation Banque de France.

## Articles

« Linking the gas and oil markets with the stock market: Investigating the U.S. relationship. », Gatfaoui H., *Energy Economics*, 2016, vol. 53, 5-16.

« Pricing the (European) option to switch between two energy sources: An application to crude oil and natural gas. », Gatfaoui H., *Energy Policy*, 2015, vol. 87, 270-283.

« Translating Financial Integration Into Correlation Risk: A Weekly Reporting's Viewpoint for the Volatility Behavior of Stock Markets. », Gatfaoui H., *Economic Modelling*, 2013, vol. 30, p. 776-791.

« Are Demographic Attributes and Firm Characteristics Drivers of Gender Diversity? Investigating Women's Positions on French Boards of Directors. », M. Nekhili and Gatfaoui H., *Journal of Business Ethics*, 2012, vol. 102, Issue 2, p. 205-212.

« A Correction for Classic Performance Measures. », Gatfaoui H., *Chinese Business Review*, 2012, vol. 11, Issue 1, p. 1 – 28.

« Deviation from Normality and Sharpe Ratio Behavior: A Brief Simulation Study. », Gatfaoui H., *Investment Management and Financial Innovations*, 2010, vol. 7, Issue 4, p. 106-118.

« Investigating the Common Latent Component in Stock Returns: Systematic and Systemic Risk Factors. », Gatfaoui H., *Bankers, Markets & Investors*, 2010, n° 107, July-August, p. 20-44.

« Investigating The Dependence Structure Between Credit Default Swap Spreads and the U.S. Financial Market. », Gatfaoui H., *Annals of Finance*, 2010, vol. 6, n° 4, p. 511-535.

« Is Corporate Bond Market Performance Connected with Stock Market Performance? », Gatfaoui H., *Bankers, Markets & Investors*, n° 102, September-October 2009, p. 45-58.

« Less Can Be More! », Gatfaoui H. and C. Walter, *Journal of Money, Investment and Banking (JMIB)*, May 2009, Issue n° 9, p. 59-77.

« From Fault Tree to Credit Risk Assessment: A Case Study. », Gatfaoui H., *International Research Journal of Finance and Economics (IRJFE)*, March 2008, Issue n° 14, p. 379-401.

« From Fault Tree to Credit Risk Assessment: An Empirical Attempt. », Gatfaoui H., *ICFAI Journal of Risk and Insurance*, January 2006, vol. 3, n° 1, p. 7-31.

« How Does Systematic Risk Impact US Credit Spreads? A Copula Study. », Gatfaoui H., *Bankers, Markets & Investors (formerly Revue Banque & Marchés)*, 2005, n° 77, July – August, p. 5 - 16.

« Default and Liquidity Risks: Studying the Two Components of Credit Spread. », Gatfaoui H., *La Revue des Sciences de Gestion*, 2004, n° 210, November - December, p. 123 - 134. In French.

« Risk Disaggregation And Credit Risk Valuation in a Merton Framework », Gatfaoui H., *Journal of Risk Finance*, Spring 2003, vol. 4, n° 3, p. 27 - 42.

« Business Cycle and Default Risk » Gatfaoui H. and F. Radacal, *Revue Finance*, Numéro Hors Série : Mathématiques Financières, December 2002, vol. 23, p. 45 - 75. In French.

« Systematic Risk, Idiosyncratic Risk: A Useful Distinction For Valuing European Options », Chauveau T. and H. Gatfaoui, *Journal of Multinational Financial Management*, October 2002, vol. 12, n° 4-5, p. 305-321.

### **Book chapters**

« Is Critical Slowing Down a Useful Indicator to Forecast Bifurcations in Financial Time Series? », Gatfaoui H., de Peretti P. and Nagot I. (submitted).

« French SMEs' Default: Inferring Critical Thresholds from Economic and Financial Fundamentals. » In *Le grand livre de l'économie PME – 2015*, edited by Gilles Lecointre, 3<sup>rd</sup> edition, Gualino Lextenso Editions, 2014, Part 5, Chapter 2, p. 725-752. In French.

« Linking U.S. CDS Indexes with the U.S. Stock Market: A Multidimensional Analysis with Market Price and Volatility Channels. », Gatfaoui H. Forthcoming In Jan Emblemvag (Eds.), *Risk Management / Book 2*, InTech - Open Access Publisher, 2012, Chapter 18, p. 413 -434.

« Model Risk: Caring about stylized features of asset returns! - How does equity market influence credit default swap market? », Gatfaoui H. In Gregoriou Greg N., Hoppe Christian, Wehn Carsten (Eds.), Chapter 5, *The Risk Modeling Evaluation Handbook: Rethinking Financial Risk Management Methodologies in the Global Capital Markets*, McGraw-Hill, U.S.A., March 2010, p. 75-95.

« Investigating The Link Between Credit Default Swap Spreads and U.S. Financial Market. », Gatfaoui H. In Greg N. Gregoriou et Paul U. Ali (Eds.), Chapter 9, *The Credit Derivatives Handbook: Global Perspectives, Innovations and Market Drivers*, McGraw-Hill, U.S.A., August 2008, p. 183-200.

« Idiosyncratic Risk, Systematic Risk and Stochastic Volatility: an Implementation of Merton's Credit Risk Valuation. », Gatfaoui H. In Greg N. Gregoriou (Eds.), Chapter 6, *Advances in Risk Management*, Palgrave-MacMillan, 2007, p. 107-131.

« How Does Systematic Risk Impact Stocks? A Study on the French Financial Market. », Gatfaoui H. In Greg N. Gregoriou (Eds.), Chapter 10, *Asset Allocation and International Investments*, Palgrave-MacMillan, 2007, p. 183-213.

### **Books**

« Introduction to Stock Portfolio Management. », Gatfaoui H., CRC/Chapman Hall, (book still in progress) forthcoming in late 2015/ Early 2016.

« Une Histoire du Risque de Défaut. », Gatfaoui H., Editions Publibook Universités, Collection Recherche, November 2008 (180 pages).

« Rôle et Impact de la Volatilité dans le Pricing d'Options et de Produits Dérivés. », Gatfaoui H., Editions Publibook Universités, Collection Recherche, August 2004 (60 pages).

### **Entries in encyclopedia**

« Capital Asset Pricing Model. », *ENCYCLOPEDIA OF QUANTITATIVE FINANCE* edited by Rama Cont, 2010, John Wiley & Sons Ltd. Chichester, UK, p. 241-249.

*ENCYCLOPEDIA OF ALTERNATIVE INVESTMENTS* edited by G.N. Gregoriou, 2008 Chapman Hall UK:

- Volume on MANAGED FUTURES: Liquidity (Liquid Market), p. 271 ;
- Volume on HEDGE FUNDS: Bottom up investing, Performance persistence, Top down investing, p. 49-50, 355-356, 479.

### **Work in progress/Submitted papers**

« Investigating the Intraday Pattern of European and U.S. Stock Market Indexes: An Asymmetric GARCH Representation of One-Minute Returns. », Gatfaoui H.

« Investigating the Linkages between U.S. CDS Spreads and Both the Equity Market Price and Equity Market Volatility Channels: A Quantile Cointegrating Regression Approach. », Gatfaoui H., submitted.

« Sharpe Ratios and Their Fundamental Components: An Empirical Study. », Gatfaoui H., 2012.

### **Working papers**

« Clustering in Dynamic Causal Networks as a Measure of Systemic Risk on the Euro Zone. », Billio M., Frattarolo L., Gatfaoui H. and de Peretti P., 2016, SYRTO Working Paper Series.

« Investigating the Linkages between U.S. CDS Spreads and Both the Equity Market Price and Equity Market Volatility Channels: A Quantile Cointegrating Regression Approach. », Gatfaoui H., 2015, SYRTO Working Paper Series, Working paper n. 27.

« The kiss of information theory that captures systemic risk », ADDO P. M., De PERETTI P., GATFAOUI H., RUNGE J., March 2015, Documents de Travail du Centre d'Economie de la Sorbonne - 2014.69R (and SYRTO Working Paper Series, Working paper n. 20).

« How Does Systematic Risk Impact Stocks? A Study on the French Financial Market. », Gatfaoui H., Groupe ESC Rouen Working paper, n° 66, 2006.

« From Fault Tree to Credit Risk Assessment: A Case Study. », Gatfaoui H., Economics and Econometrics Research Institute – EERI, Research Paper n° EERI RP 2004/05, 2004.

« Idiosyncratic Risk, Systematic Risk and Stochastic Volatility: An Implementation of Merton's Credit Risk Valuation. », Gatfaoui H, Working Paper Series, 123, School of Finance and Economics, University of Technology, Sydney, April 2004.

« Pricing and Hedging Options in Incomplete Markets: Idiosyncratic Risk, Systematic Risk and Stochastic Volatility. », Chauveau T. and H. Gatfaoui, Working Paper Series, 122, School of Finance and Economics, University of Technology, Sydney, April 2004.

« Risk Disaggregation And Credit Risk Valuation in the Merton Like Way. », Gatfaoui H., MSE Working paper, White series n° Bla02061, 2002.

« Risque de Défaut et Risque de Liquidité : Une Etude de Deux Composantes du Spread de Crédit. », (version 2), Gatfaoui H., MSE Working paper, White series n° Bla02062, 2002.

« Risk Disaggregation As An Explanation Of The Smile: The Black & Scholes Formula Revisited », Chauveau T. et H. Gatfaoui, MSE Working paper, White series n° Bla02006, 2002.

### **Interview**

« French Interview about the Financial Crisis and its link with mathematics. », MathFi.com, 2008.

## Academic activities

Coordinator for the Finance courses for the third year of Rouen Business School's teaching program.

Responsible of the French and English courses on Derivative Products, for the second year of Rouen Business School's teaching program.

**Journal reviewer for the:** Accounting and Finance Research, American Journal of Economics and Business Administration (AJEBA), Asian Business & Management (ABM), Canadian Social Science, Communications in Statistics - Simulation and Computation, Contemporary Economics, Economic Modelling, Emerging Markets Finance and Trade (EMFT), Finance, International Journal of Economic Policy in Emerging Economies (IJEPEE), International Journal of Financial economics and Econometrics (IJFEE), International Journal of Financial Markets and Derivatives (IJFMD), International Journal of Financial Studies, International Journal of Theoretical and Applied Finance, International Review of Economics and Finance, Journal of Banking and Finance, Journal of Derivatives Research, Journal of Investment, Money and Banking (JMIB), Journal of Risk, Journal of Systemics, Cybernetics and Informatics (JSCI), Management International, Quantitative Finance, Review of Finance and Banking, Review of Quantitative Finance and Accounting.

“Editorial Advisory Board member” of the *Middle Eastern Finance and Economics Journal* ([www.eurojournals.com](http://www.eurojournals.com)), and “Editorial Board Member” of the *Journal of Business & Financial Affairs* (<http://www.omicsgroup.org/journals/jbfahome.php>).

Editor for Manuscriptedit at Reseapro Scientific Services (P) Ltd. (<http://www.manuscriptedit.com/>), associate editor for the *International Research Journal of Applied Finance* ([www.irjaf.com](http://www.irjaf.com)), and the *Review of Finance and Banking* (<http://www.rfb.ase.ro/editorial.asp>).

Associate Guest Editor of a special issue of the American Journal of Economics and Business Administration (AJEBA), selected papers from AFE 2009 conference, published in AJEBA Vol. 2, No. 4, 2010.

Reviewer for research funding governmental institutions in Canada (Social Sciences and Humanities Research Council – SSHRC – in 2009, Fonds Québécois de la Recherche sur la Nature et les Technologies – FQRNT – in 2010).

Chairman and/or discussant at the conferences I do attend (e.g., AsianFA/FMA, AFBC, CFF, EFMA, QMF...).

Scientific committee and program committee member of AFE (Advances in Financial Economics) conference, Asian FMA 2010 conference, the annual conference of the Eastern Finance Association (EFA) in 2009 and 2010, the International Symposium on Management, Engineering and Informatics conferences (MEI 2009 to 2014), and the International Symposium on Risk Management and Cyber-Informatics conferences (RMCI 2009 to 2015).

Referee for the defense of the “Habilitation à Diriger des Recherches” in Econometrics applied to Micro Economics and Finance of senior lecturer P. de Peretti, University Paris 1 Panthéon-Sorbonne, France, September 2013.

Referee for the Ph.D. entitled « *Credit Risk Determinants and Connections in the Euro Zone* » of Miss Amina BEN YAHYA, defended on 4 November 2015 at the University of Paris Nord.

Referee for the Ph.D. entitled « *On the Stock Market Dependence with China, Characteristic Information – Empirical Study and Data Analytics* » of Mr. Feng HE, defended on 14 September 2015 at Tianjin University in China (in cooperation with University Paris 1).

Referee for the Ph.D. entitled « *Corporate Bond Valuation and Credit Spreads: Lessons from the Financial Crisis* » of Mr. Achraf SEDDIK, defended on 27 November 2015 at University Paris 13.

Co-supervision with University Paris 1 – Panthéon-Sorbonne of a Ph.D. on Fiscal Policy in Turkey since September 2014.

**Research member** at CES (University Paris 1) on the systemic risk projects of the LABEX “ReFi” (Financial Regulation) and on SYRTO European research project about SYstemic Risk Tomography (funded by the European Commission).

**Member of the following associations:** *International/Madison Who’s Who*, *Association Française de Finance* (AFFI), *BrainGuide* Expert’s Portal, *American Finance Association* (AFA), *European Financial Management Association* (EFMA), *Global Association of Risk Professionals* (GARP), *LinkedIn* professional network, *PRMIA* (*Professional Risk Managers’ International Association*), *ResearchGATE* scientific network, *Viadeo* network, *Worldwide Directory of Finance Faculty and Professionals*, *AMaMeF* (*Advanced Mathematical Methods for Finance*), *Emerald Insight*, *AcademicVoice.com* (Academic Advisor), *International Network for Finance and Economics* (INFE), et *Asian FA/FMA*.

### **Latest paper presentations at conferences, seminars and workshops**

« Estimating Fundamental Sharpe Ratios. », Gatfaoui H., *QMF, Quantitative Methods in Finance Conference*, 15 -18 December 2010, Sydney, Australia; *SWFA, 50<sup>th</sup> Southwestern Finance Association Conference*, 9 - 12 March 2011, Houston, USA.

« Analyzing the Link between U.S. Credit Default Swap Spreads and Market Risk: A 3-D Copula Framework. », Gatfaoui H., *8<sup>th</sup> AFE 2011, Advances in Applied Financial Economics*, 30 June-2 July 2011, Samos (Greece).

« Investigating the Linkages between U.S. CDS Spreads and Both the Equity Market Price and Equity Market Volatility Channels: A Quantile Regression Approach. », Gatfaoui H., *AFBC, 25<sup>th</sup> Austral-Asian Finance and Banking Conference*, 16 -18 December 2012, Sydney, Australia.

« Investigating the Linkages between U.S. CDS Spreads and Both the Equity Market Price and Equity Market Volatility Channels: A Quantile Cointegrating Regression Approach. », Gatfaoui H., *Workshop in Honor of Prof. William T. Ziemba*, 4 February 2013, Reims, France; *Symposium on Recent Advances in Extreme Value Theory honoring Ross Leadbetter*, 18 - 20 March 2013, Lisbon; and *Mathematical Finance Days*, 29-30 April 2013, HEC Montréal, Canada.

« Idiosyncratic Risk Mapping: From Specific to Systemic Risk. », SYRTO Kick-off meeting, presentation of the Working Package 3, Gatfaoui H., de Peretti Ph. and Vitting-Andersen J., 4 – 5 April 2013, Brescia, Italy.

« Investigating the Intraday Pattern of European and U.S. Stock Market Indexes: An Asymmetric GARCH Representation of One-Minute Returns. », Gatfaoui H., *Mathematical Finance Days*, 29-30 April 2013, HEC Montréal, Canada.

« Linking the gas and oil markets with the stock market: Investigating the U.S. relationship. », Gatfaoui H., *51<sup>st</sup> Meeting of the EWGCFM*, 16-18 May 2013, ESCP Europe London campus, England.

« Investigating the Linkages between U.S. CDS Spreads and Both the Equity Market Price and Equity Market Volatility Channels: A Quantile Cointegrating Regression Approach. », Gatfaoui H., *University of Surrey Conference, “Banking, Finance, Money and Institutions: The Post Crisis Era”*, 2-3 November 2013, Guildford, United Kingdom.

« Measuring the Time-Varying Dependence Across Financial Markets: A Contamination Analysis of Equity and Sovereign CDS Markets. », Gatfaoui H. and de Peretti P., Seminar of the “Axe Finance”, 20<sup>th</sup> November 2013, CES, University Paris 1, Panthéon-Sorbonne.

« Investigating the Intraday Pattern of European and U.S. Stock Market Indexes: An Asymmetric GARCH Representation of One-Minute Returns. », Gatfaoui H., *Quantitative Methods in Finance*

*(QMF) Conference*, 17-20 December 2013, Sydney, Australia; ; *7th Financial Risks International Forum on "Big Data in Finance and Insurance"*, 20-21 March 2014, Paris.

« Measuring the Time-Varying Dependence Across Financial Markets: A Contamination Analysis of Equity and Sovereign CDS Markets. », Frattarolo L., Gatfaoui H., de Peretti P., *CFE*, 6-8 December 2014, Pisa, Italy.

« Blind Signal Separation & Multivariate Non-Linear Dependency Measures. », Addo P. M., Gatfaoui H., de Peretti P., *CSRA Research Meeting*, 14 December 2014, MIT Boston, USA.

« Pricing the (European) option to switch between two energy sources: An application to crude oil and natural gas. », Gatfaoui H., *Quantitative Methods in Finance (QMF) Conference*, 17-20 December 2014, Sydney, Australia; *Computational and Financial Econometrics (CFE)*, 12-14 December 2015, London.

« Capturing Long-Term Coupling and Short-Term Decoupling Crude Oil and Natural Gas Prices. », Gatfaoui H., *Quantitative Methods in Finance (QMF) Conference*, 15-18 December 2015, Sydney, Australia.

« Clustering in Dynamic Causal Networks as a Measure of Systemic Risk on the Euro Zone. », Billio M., Frattarolo L., Gatfaoui H. and de Peretti P., *Syrto International Conference*, 19 February 2016, Paris.

« L'Enseignant Innovateur. », Gatfaoui H., *2ème Symposium Management 2020 – Paroles d'Enseignants*, Innovations et Pratiques en Enseignement Supérieur, 9-10 March 2016, Casablanca, Morocco.

## **TEACHING**

### **IESEG SCHOOL OF MANAGEMENT**

*Banking II: Risk Management in the Banking Industry* for MSc Finance students.

*Financial Econometrics* for MSc Finance students.

*Financial Markets* for 3<sup>rd</sup> year of Bachelor students.

*Introduction to Derivatives* for 3<sup>rd</sup> year of Bachelor students.

*Portfolio Management and Analysis* for MSc Finance and Master in Finance students.

### **NEOMA BUSINESS SCHOOL (RBS = CAMPUS OF ROUEN, RMS = CAMPUS OF REIMS)**

*Financial Mathematics* for 1<sup>st</sup> year of MGE (Mastère Grande Ecole).

*Financial Markets and Market Finance* for 1<sup>st</sup> year of MGE and apprenticeship students.

*Fixed Income* for 3<sup>rd</sup> year of MGE for students specialized in Finance.

*Quantitative Methods* for 2<sup>nd</sup> year of MGE.

*Options & Derivatives* for 2<sup>nd</sup>/3<sup>rd</sup> year of MGE for Finance students (in French and in English).

*Mathematics for Finance and Initiation to Econometrics* for 3<sup>rd</sup> year of MGE for students specialized in Finance and Master of Science in Financial Markets (in French and in English).

*Applied Stock Portfolio Management and Stock Portfolio Management* for Master students in International Finance.

“*Quantitative Financial Risk Management (QFRM): Credit Risk*” for 2<sup>nd</sup> year of MGE (preparing students to GARP’s FRM certificate), RMS (since January 2014).



**UNIVERSITY PARIS I – PANTHÉON-SORBONNE**

*Financial Instruments and Markets* for Money and Finance Master.

*Statistics and Data Processing* for first year's study in Economics.

*Financial Choice Theory* for second year of high level University Economic degree combining academic coursework with work experience in industry.

*Introduction to Economic Theory* for first year's students in Mathematics Applied to Social Science.

*Micro-economy* for first year's students in Mathematics Applied to Social Science.