EDHEC-Risk Institute
PhD in Finance
NEWSLETTER

September 2010/February 2011 – Double Issue

In this issue:

Sneak preview

The first cohort of the PhD programme has entered its third and final year of study. Candidates' dissertations are taking shape and are in line with expectations in terms of academic excellence and industry relevance. The recent PhD Forum, organised as part of the fourth edition of the EDHEC-Risk Institutional Days conference, was the opportunity for a selection of final year PhD candidates to present their dissertation work to some of the 550 representatives from the institutional investor and fund manager communities who had flown to Monaco from forty-one countries to discuss the Institute's latest research results.

Michelle Sisto, PhD in Finance candidate (entering class of 2008) presenting at the PhD Forum in Monaco

The presenters, Gideon Ozik, Michelle Sisto, and Vijay Vaidyanathan, are three executive track students with very different profiles. Gideon works for Nexar Capital Group, a hedge fund management group founded by SGAM AI veterans; he was previously the Head of Hedge Funds and Alpha Solutions at SGAM AI, and prior to that a quantitative derivatives trader at NISA Investment Advisors LLC. Michelle is Professor of Mathematics and Statistics at the International University of Monaco. Vijay has just joined EDHEC-Risk Indices and Benchmarks as President for North America. He was formerly CEO of Return Metrics Inc., a boutique investment management and technology consulting firm. A classic Silicon Valley entrepreneur, he has held senior executive positions in technology firms over the last fifteen years, including CEO of Yaga Inc., Chief Strategy Officer with NBC Internet, and Chief Technology Officer with Xoom.Com.

Gideon's and Vijay's theses are for the most part a reflection of their professional backgrounds, but with a definite academic twist. Vijay looks at theory explaining syndication decisions made by venture capital firms and suggests a new motive for some of them. He proposes a model and devises empirical tests to distinguish between his and other maintained hypotheses in the literature. Gideon investigates the potential biases in the coverage of hedge fund news by different media sources, including mass media, specialised media, and corporate communications.

Using textual analysis, he analyses close to 70,000 articles containing references on over 750 long/short equity hedge funds and uncovers three types of biases: reporting style, editorial selection, and contents. He then examines whether media reports contain information about future performance and whether investors act upon this information and concludes that investors do not seem to exploit valuable information embedded in media coverage. Michelle also looks at market efficiency, although from a different angle. She develops an empirical model to assess the impact of short-selling restrictions on long-only investors. She examines the effect of bans in the United States with daily returns over the 1999-2009 period for forty-eight value-weighted industry portfolios. The conclusion is that the regulatory interventions are costly. All three students gave superb presentations and received very useful feedback, both from academic discussants and the audience. We look forward to the finished and polished papers coming out of these exciting research agendas.

In the rest of the cohort other topics hold great promises. While the study of volatility is popular amongst doctoral students, two of our PhD candidates approach it from original angles. Daniel Mantilla-Garcia, a residential track candidate, develops a model-free measure of idiosyncratic volatility based on the cross-sectional dispersion of individual stock returns. Kelvin Foo, Senior Risk Manager for Funds and Bancassurance at Standard Chartered Bank in Singapore, studies the significance of trade links in the transmission of volatility between the equity markets of a host of countries and S&P500 firms that trade with these nations.

In the same vein, Jasmine Yu who works as Senior Investment Analyst for a major sovereign wealth fund in the Gulf region, looks at how strong links with China may impact the equity premium of corporates. Focusing on investment solution design, Sanjay Misra, Portfolio Manager with BlackRock in Japan, studies life-cycle investing with an uncertain terminal retirement date. Corporate finance is not forgotten as Kaipichit Ruengsrichaiya, another residential student, develops a heterogeneous-agent production model to address conflicts of interest in a firm emanating from empire building motives and agency issues.

Research performed by candidates from the programme's inaugural class combines the use of the latest methodological developments with a strong anchoring to the reality of markets, and should translate into publications in academic and professional peer-reviewed journals of repute.

Affiliate faculty strengthened

We are delighted to report that Professor **Mikhail Chernov** of the London School of Economics and Professor **Tarun Ramadorai** of the University of Oxford Saïd Business School have agreed to join the PhD in Finance affiliate faculty.

Professor Chernov's research focuses on asset pricing, derivatives, fixed income and financial econometrics, while Professor Ramadorai looks primarily at capital markets, international finance, and hedge funds.

They strengthen an exceptional team of international scholars that brings together ten senior economics and finance scholars drawn from the EDHEC Business School faculty and eighteen affiliate professors from foremost research institutions around the world.

Over the last three years (2008-2010), programme faculty members have published over 120 articles in peer-reviewed journals. The bulk of these have appeared in the most competitive and influential mainstream journals.

Mikhail Chernov,
PhD in Business Administration (Penn State),
MSc in Statistics (Moscow)

London School of Economics
Professor of Finance

Centre for Economic Policy Research
Research Affiliate, Financial Economics Programme

Bank of England
Academic Consultant

Specialist in derivatives, fixed income, asset pricing, and financial econometrics

Mikhail Chernov is Professor of Finance at the London School of Economics. He was previously an Associate Professor of Finance at London Business School. Prior to that, he was the Roderick S. Cushman Associate Professor of Business and an Associate Professor of Finance at Columbia Business School, having joined Columbia University upon completion of his PhD. His research focuses on asset pricing, derivatives, fixed income and financial econometrics; he has published on these topics in leading journals, including *Journal of Econometrics*, *Journal of Finance*, *Journal of Financial Economics*, *Management Science*, and *Review of Financial Studies*. He serves as associate editor for *Journal of Finance*, *Journal of Financial and Quantitative Analysis*, *Journal of Business and Economic Statistics*, and *Journal of Econometrics*.

Tarun Ramadorai,
PhD in Business Economics (Harvard), MPhil in Economics (Cambridge)

University of Oxford
Reader in Finance,
Saïd Business School

Centre for Economic Policy Research
Research Affiliate, Financial Economics Programme

Oxford-Man Institute for Quantitative Finance
Executive Committee Member

Specialist in hedge funds, capital markets, and international finance

Tarun Ramadorai a Reader in Finance at the Saïd Business School, having joined the University of Oxford upon completion of his PhD. He has recently held a visiting faculty position at London Business School. He has also served as a consultant to various financial institutions. His research focuses on capital markets, international finance and hedge funds; he has published on these topics in leading journals, including the *Journal of Finance*, *Journal of Financial Economics*, and *Review of Financial Studies*. He has received numerous research grants and has been awarded best paper prizes by Inquire UK and the European Finance Association.

Research workshop

The Doctoral Research Workshop Series will feature a record number of sessions over the 2010/2011 academic year and include the first paper presentations in Singapore.

As usual, asset pricing models and quantitative methods constitute a mainstay of the series. **Raman Uppal** presents an equilibrium model of asset prices with heterogeneity in beliefs, time preference, and risk aversion while **Ravi Bansal** develops methods for estimating his long-run risks model and empirically investigates its ability to explain asset returns. Guest researcher Olivier Ledoit extends the shrinkage approach to improve the estimation of covariance matrices, **Stéphane Gregoir** shows how to adapt testing in a vector autoregression model to use non seasonally adjusted data, **Bob Kimmel** discusses statistical inference using maximum-correlation portfolios, and **Nick Polson** applies particle filtering and parameter learning algorithm to finance.

Venture capital and private equity receive a fair share of attention with **Pierre Mella-Barral** bringing light on the relationships between entrepreneurial spawning and firm characteristics and **Florencio López-de-Silanes** presenting new found evidence on private equity returns and their determinants.

Issues whose relevance was highlighted by the global financial crisis continue to be high on the agenda. **Frank Diebold** and **Yacine Aït-Sahalia** present papers on financial contagion while **Peter Christofferssen** takes a long term view of changes in correlations between developed and emerging markets. Short-selling continues to draw interest with **Ekkehart Boehmer** investigating the sources of short sellers' informational advantage. Finally, the series includes two contributions on security and investment solution design with **António Mello** focusing on securities that can provide financial flexibility and **Lionel Martellini** presenting a new approach to life-cycle investing and the design of target date funds.

The Doctoral Research Workshop Series is organised by EDHEC-Risk Institute for faculty, researchers, and PhD candidates. Each workshop is accessible live over the Internet and students and faculty enjoy full access to multimedia recordings of past sessions. Affiliate faculty members and prospective students who wish to participate in these workshops should contact **Maud Gauchon**.

September	Connectedness' Measurement for Financial Risk Management	Francis X. Diebold (UPenn/Wharton)
September	What do Short Sellers Know?	Ekkehart Boehmer (EDHEC)
October	Asset Prices with Heterogeneity in Preferences and Beliefs	Raman Uppal (EDHEC)
November	Nonlinear Shrinkage Estimation of Large-Dimensional Covariance Matrices	Olivier Ledoit (Zurich)
January	Is the Potential for International Diversification Disappearing?	Peter Christofferssen (Toronto)
January	Modelling Financial Contagion Using Mutually Exciting Jump processes	Yacine Aït-Sahalia (Princeton)
24 February (Singapore and online)	Entrepreneurial Spawning and Firm Characteristics	Pierre-Mella Barral (EDHEC)
16 March (Nice and online)	Pay Now or Later: Designing Securities for Financial Flexibility	António Mello (UW-Madison)
24 March (Nice and online)	Testing in Vector Autoregressions with Possibly Seasonally and Non-seasonally (Co-)Integrated Processes: An application to Monetary Policy	Stéphane Gregoir (EDHEC)
15 April (Singapore and online)	Statistical Inference Using Maximum-Correlation Portfolios	Robert Kimmel (EDHEC)
17 May (Nice and online)	Risks For the Long Run: Estimation and Inference	Ravi Bansal (Duke)
26 May (Singapore and online)	Giants at the Gate: On the Cross-Section of Private Equity Investment Returns	Florencio López-de-Silanes (EDHEC)
9 June (Nice and online)	Nonlinear Filtering and Learning Dynamics	Nicholas Polson (Chicago)
9 June (Nice and online)	Optimal Portfolio Allocations with Hedge Funds	Jérôme Detemple (Boston)
23 June (Nice and online)	From Deterministic to Stochastic Life-Cycle Investing - Implications for the Design of Improved Forms of Target Date Funds	Lionel Martellini (EDHEC)

Faculty and student interviews

FACULTY INTERVIEW: Frank Diebold

Frank Diebold, Paul F. Miller, Jr. and E. Warren Shafer Miller Professor of Social Sciences; Professor of Economics (SAS); Professor of Finance and Statistics (Wharton); Co-Director, Wharton Financial Institutions Center, University of Pennsylvania

Taught an elective seminar on Yield Curve Modelling

What are you main research areas?
I am active in financial econometrics and forecasting, empirical finance and empirical macroeconomics (especially business cycles). Mostly, I work in applied time-series econometrics, with focus on financial and macroeconomic applications. Almost all my modelling is predictive in one way or another. Yield curve modelling, which I had a chance to teach in the programme, provides a good example of the importance of predictive modelling.

Precisely, what did the course cover?
The course had two related objectives. First to examine yield curve modelling, broadly defined, looking at empirical aspects and the different approaches used by academics and professionals, so as to give a broad treatment of modern developments in the field. Second to look at the links bridging the yield curve (including volatilities) and macroeconomic fundamentals. Throughout we emphasised asset allocation, risk measurement/management, and asset pricing.

In the first part of the course we introduced traditional finance approaches, which centre on theoretically-appealing arbitrage-free models but forecast poorly, traditional macroeconomic approaches that admit arbitrage but generate better predictions, and new approaches that allow to combine the best of both worlds. In the second part of the course, we looked at real-time monitoring of business conditions, examined volatility and correlation modelling and forecasting. The background to this exploration was a presentation of yield curves as state-space systems and a review of quantitative tools for estimation and prediction, with emphasis on Markov processes.

Did you have apprehensions about teaching in a programme that is opened to professionals and what was your experience like?
I had no reservations about teaching in the programme, in fact quite the opposite. It takes a rare and interesting breed of person to combine work in a highly-demanding industry position with the rigours of doctoral studies. With their level of expertise, engagement, and appreciation for the industry-relevance of what we were doing, the executive track participants brought a huge benefit to the group. The dynamics in that classroom were really quite special; there were lively discussions with participants' contributing comments and insights grounded on a combination of solid academic background and rich real-world experiences from diverse sectors. Students understood the academic subject matter, were familiar with the markets, and were very excited to use the material.

As part of the programme's doctoral workshop series, you presented a working paper (*Better to Give than to Receive: Predictive Directional Measurement of Volatility Spillovers,* co-authored with Kamil Yilmaz) that looks at volatility spillovers; could you tell us more about it?
The big picture is thinking about connectedness; correlation risk is something we may want to control at the individual investor level as well as the systemic level. During crises, financial market volatility typically increases sharply and spills over across markets. Being able to measure and monitor such spillovers could help provide early warning mechanisms and help track the progress of extant crises.

The paper uses a generalised vector autoregressive framework to decompose the uncertainty of an asset's return into asset-specific components and external shocks, and proposes measures of both total and directional volatility spillovers, the latter allowing us to shed new light on the nature of cross-market volatility transmission.

We use our methods to characterise daily volatility spillovers across U.S. stock, bond, foreign exchange and commodities markets, over a ten-year period ending January 2010. We find that despite significant volatility fluctuations in all four markets over the period, cross-market volatility spillovers were quite limited until the global financial crisis that began in 2007. We observe that as the crisis intensified so too did the volatility spillovers and pinpoint particularly important spillovers from the stock market to other markets taking place after the collapse of Lehman Brothers in September 2008.

You recently co-edited a book[1] on the known, the unknown, and the unknowable in financial risk management. Why devote time to such a project?

Because it's tremendously important! I am one of the Directors of the Wharton Financial Institutions Center, and we are very interested in financial risk management in general. The global financial crisis has underlined a number of issues with risk management and we felt it was the right time to think more deeply about different aspects of the discipline, from the most quantitative, through to the much more nebulous aspects.

What we noticed is that it is important to take into account the whole spectrum or risks–from known, to unknown, and even unknowable–to conceptualise the different kinds of financial risks in a more realistic and holistic framework and design effective strategies for managing them. The risk management literature has focused on known risks and largely ignored the equally relevant unknown and unknowable situations. Perhaps depressingly for those who have focused on knowable risk, many of the "killer risks" that can really bring firms down belong to the realm of the unknown and unknowable. Against this backdrop, the book reveals the strengths and limitations of «quantitative» risk management, but more importantly provides a framework to construct portfolios, contracts, firms, and policies that can better withstand shocks. The book demonstrates that killer risks are often crucially linked to misaligned incentives and suggests mechanisms to solve the principal-agent problems and offer incentives to do the right thing in situations that were hard to imagine ex-ante. I had a great time working on that book.

Why join the EDHEC-Risk Institute PhD in Finance as Affiliate Faculty?

René Garcia, for whom I have immense respect, told me about the programme and asked me to contribute, which I was happy to do. Looking at the other faculty members, it is clear that it is a first-rate programme. Teaching this course has been a wonderful experience; I was stunned by the quality of the students, the premises, and the organisation, and am looking forward to doing this again, perhaps on the Singapore campus.

Would you have recommendations for doctoral students?

It is tremendously important for students and all researchers to continuously think about the difference between what is important and what is merely unsolved. The sweet spot is to address unsolved problems that are simultaneously truly important. To make a powerful contribution, you need to anchor in the market and bring tools to bear on important issues. The programme's students have the right combination of professional and academic background to do exactly that.

1 - The Known, the Unknown, and the Unknowable in Financial Risk Management: Measurement and Theory Advancing Practice, edited by Francis X. Diebold, Neil A. Doherty, and Richard J. Herring, Princeton University Press, 2010.

STUDENT INTERVIEW: Theodore Kokas

Theodore Kokas, Managing Director, Global Head of Alternative Investments, SEI Investments, USA, American/Greek, 47

Could you tell us about your background?

I started my career as an engineer designing ships for the US Navy, but got bored of it and left. On the basis of my quantitative abilities–I had no finance background–I convinced the treasurer of one of the Federal Home Loan Banks to hire me and I started working as a money market trader. In my second year in the job, I transferred to the Mortgage Backed Securities desk. After another year, I decided to go back to school and get a financial education. I did an MSc at Boston College and then started a PhD but left to join a spin-off of Goldman Sachs, Southfield Corp, which was specialising in trading relative value relationships in commodities. Using the futures market, the company replicated the economics of a feedlot operation, trading feeder cattle and corn futures against live cattle futures. I was hired to replicate this arbitrage strategy in other similarly economically bounded relationships such as the soy crush, energy cracks, and bond basis arbitrage. For years, Southfield was the only firm doing this type of trade in the cattle market, until Cargill entered the market. I moved to a larger hedge fund in 1996 and then to another fund in 1999. After ten years in research, I moved to portfolio management in 2001, when I joined the Abu Dhabi Investment Authority and took on the role of head of proprietary trading within their alternative investment division. After two years, I moved to New York and went on as a portfolio manager, first with Millenium Partners, and then with Rubicon in London, where I stayed until they closed shop in 2007 (the company later staged a dramatic comeback in the wake of the financial crisis). I moved to the fund of hedge fund business doing manager selection and allocation, joining SEI as Head of Strategy in the Philadelphia region. A year ago I was promoted to Head of Alternative Investments. As such, I oversee hedge fund, private equity, and real estate assets worth a combined USD2.5bn.

What do you do in the Fund-of-Funds framework?
We have three main responsibilities: first to make top-down asset allocation decisions across various hedge fund strategies, our flagship product is a multi-strategy fund of hedge funds with USD1.9bn AUM, second is fundamental bottom-up manager selection–we invest with between forty and fifty managers–this is done by my team of analysts and my role is to oversee their work, third to build the portfolio allocating the risk budgets to the various strategies and managing the risk.

How do you manage the risk?
For measurement, we perform both return-based and position-based risk analysis, employing such metrics as VaR (with caution as we recognise the limitations of this approach) and expected loss with a focus on tail risk. We also do scenario analysis. Our primary risk management system is a proprietary multi-factor risk model that monitors our exposure to the various sources of risks and return. Risk control is primarily done by adjusting asset allocation and manager selection, but we have the option of utilising overlays from time to time.

You have been very successful to date and been entrusted with responsibilities encompassing research and management, why distract some of your time to do a PhD at this stage of your career?
The main reason is that I want to strengthen my skills: while I conceptualise the research work of my unit, I contract out the research to people with specialised expertise. I need to have a greater understanding of research methods and a greater exposure to the academic state of the art to better monitor this research.

This was not an easy decision to make at my age and at this stage of my career. However, not investing in developing these skills and acquiring this knowledge would slow down the rate of progress in the organisation. Research is paramount in the alternative investment space; for me to guide my organisation in the appropriate direction, I need to do a PhD.

Why choose EDHEC-Risk Institute?
Credibility. I need my qualification to be credible and the PhD in Finance programme at EDHEC-Risk Institute offered serious guarantees. It has a solid curriculum, is delivered by world-class faculty, and benefits from the support of a well-regarded research centre. I am looking forward to drawing on the collective resources of EDHEC-Risk Institute and on individual faculty members to do rigorous research, and have already started interacting with practitioners at the leading edge, which should prove fertile ground for new ideas.

Has the programme met your expectations to date?
The first two professors I have met are exceptional. They are impressive scholars by their own right and also excellent pedagogues; access to high-quality academics was one critical factor in my choice of EDHEC-Risk Institute, so I am thoroughly satisfied.

I also expected the programme to be intense and challenging; it certainly is but I do not feel overwhelmed. I have charted a course to digest the volume of information we have been exposed to and feel confident.

Indeed, the programme is challenging by its nature and format, how are you going to manage the required time commitment?
My wife also wants to know. I intend to orient my dissertation work towards things I am already working on and that will have very practical implications with tangible benefits for the organisation.

SEI appreciates the value my research will have for improving the investment process and also see this as professional development. The company is thus endorsing my participation in the programme.

Human resources had had negative experience with the financing of EMBAs, but they recognised that while the benefits of general management programmes are largely intangible and highly individual, a programme like the PhD has immediate collective value for the company as the team as a whole benefits from better supervision and better guidance.

Could you tell us more about this research then?
I want to focus on systemic return drivers in the hedge fund space and examine hedge fund replicating strategies.

I also have an interest in risk management across asset classes. Last May, our risk factor model was reporting low betas across our entire suite of risk factors however nearly all of our individual managers were down on the month, clearly something was missing... The missing factor was an estimate of liquidity risk, a flight to quality in stress periods. Correlations across risk premia increase in periods of stress and we were not monitoring this level of cross-sectional correlations directly in our factor model.

I am interested in looking at correlations between strategies and their evolution over time to examine to whether correlation behaviour could serve as early warning for stress situations. Risk management should work not only in good times but also during periods of stress. In my opinion, the industry has to work harder to learn the lessons from the last crisis.

Who do you think this programme is for?
In my opinion, this is a programme for senior executives and investment professionals who want to drive their organisations in different areas. This is for people who want to broaden their understanding of finance theory, not only to grow personally, but also use their new skills and knowledge to upgrade their organisations.

Faculty news

Lionel Martellini, Scientific Director of EDHEC-Risk Institute and Professor of Finance, EDHEC Business School

Inquire Europe First Prize 2009/2010 awarded to Professor Martellini

The Institute for Quantitative Investment Research (Inquire) Europe has awarded its First Prize for 2009/2010 to Professor **Lionel Martellini**, Scientific Director of EDHEC-Risk Institute for research presented at the Inquire Autumn Seminar 2009 in Madrid, and developed in conjunction with Doctor Vincent Milhau, Research Engineer with EDHEC-Risk Institute.

The winning presentation, entitled "**Dynamic Allocation Decisions in the Presence of Funding Ratio Constraints"**, and drawn from the BNP Paribas Investment Partners research chair on "Asset-Liability Management and Institutional Investment Management" was cited by Inquire as being "truly outstanding and deserving this recognition."
Download the presentation...

Faculty moves

PhD in Finance Affiliate Faculty Member **Peter Christoffersen** joined the University of Toronto Rotman School of Management as Professor of Finance. He was previously Associate Professor of Finance and a Leibovitch faculty scholar at the McGill University Desautels Faculty of Management.

Professor **Ekkehart Boehmer** joined EDHEC Business School in Nice as Professor of Finance. He was previously the John B. Rogers Professor of Banking and Finance at the University of Oregon Lundquist College of Business.

Professor **Raman Uppal** joined EDHEC Business School in London as Professor of Finance. He was previously with the London Business School in the same capacity. Both professors were already on the faculty of the PhD in Finance programme as affiliates and members of EDHEC-Risk Institute.

As previously announced Professor **Robert Kimmel** joined EDHEC Business School in Singapore as Professor of Finance and Assistant Academic Director for the PhD in Finance programme in Asia, and Professor **Giuseppe Bertola** joined as a Professor of Economics, based in Nice. Professor Kimmel was previously at the Ohio State University Fisher College of Business, while Professor Bertola was with the University of Turin.

Recent publications

Below is a selection of articles by programme faculty members published over the last twelve months. Appearing are articles in leading journals authored by faculty members under their EDHEC Business School or EDHEC-Risk Institute affiliations.

- Market Microstructure Noise, Integrated Variance Estimators, and the Accuracy of Asymptotic Approximations. **Bandi, Federico M** and Russell, Jeffrey R. *Journal of Econometrics*, January 2011, Vol. 160 Issue 1, pp145-159.

- Estimation of Objective and Risk-Neutral Distributions Based on Moments of Integrated Volatility. **Garcia, René**; Lewis, Marc-André; Pastorello, Sergio; Renault, Éric. *Journal of Econometrics*, January 2011, Vol. 160 Issue 1, pp22-32.

- Generalized Disappointment Aversion, Long-Run Volatility Risk and Asset Prices. Bonomo, Marco; **Garcia, René**; Meddahi, Nour; Tédongap. Roméo. *Review of Financial Studies*, January 2011, Vol. 24 Issue 1, pp82-122.

- Subsidizing Low-Skilled Jobs in a Dual Labor Market. Belan, Pascal; Carré, Martine; **Gregoir, Stéphane.** *Labour Economics*, October 2010, Vol. 17 Issue 5, pp776-788.

- Fully Modified Estimation of Seasonally Cointegrated Processes. **Gregoir, Stéphane.** *Econometric Theory*, October 2010, Vol. 26 Issue 5, pp1491-1528.

- Estimating Affine Multifactor Term Structure Models Using Closed-Form Likelihood Expansions. Aït-Sahalia, Yacine and **Kimmel, Robert L.** *Journal of Financial Economics*, October 2010, Vol. 98 Issue 1, pp113-144.

- A Note on the Dai-Singleton Canonical Representation of Affine Term Structure Models. Cheridito, Patrick; Filipovic, Damir; **Kimmel, Robert L.** *Mathematical Finance*, July 2010, Vol. 20 Issue 3, pp. 509-519.

- Disclosure by Politicians. Djankov, Simeon; La Porta, Rafael; **Lopez-de-Silanes, Florencio**; Shleifer, Andrei. *American Economic Journal*: Applied Economics, April 2010, Vol. 2, Issue 2, pp. 179-209.

- The Good News in Short Interest. **Boehmer, Ekkehart**; Huszar, Zsuzsa R.; Jordan, Bradford D. *Journal of Financial Economics*, April 2010, Vol. 96 Issue 1, pp. 80-97.

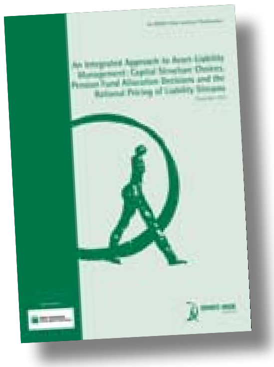
- Improved Estimates of Higher-Order Comoments and Implications for Portfolio Selection. **Martellini, Lionel** and Ziemann, Volker, *Review of Financial Studies*, April 2010, Vol. 23 No. 4, pp. 1467-1502.

- Passive Hedge Fund Replication – Beyond the Linear Case. Amenc, Noël; **Martellini, Lionel**; Meyfredi, Jean-Christophe; Ziemann, Volker. *European Financial Management*, March 2010, Vol. 16 Issue 2, pp191-210.

EDHEC-Risk Institute news

Latest EDHEC-Risk Institute publications

- **"An Integrated Approach to Asset-Liability Management: Capital Structure Choices, Pension Fund Allocation Decisions and the Rational Pricing of Liability Streams",**



Martellini Lionel and Milhau Vincent, EDHEC-Risk Institute, November 2010, 96 pages.

Correctly assessing the value of a pension plan in deficit with a weak sponsor company is a real challenge given that no comprehensive model is currently available for the joint quantitative analysis of capital structure choices, pension fund allocation decisions and their impact on rational pricing of liability streams. This publication is an attempt to fill this gap by analysing the valuation of pension liabilities regarded as defaultable claims issued by the sponsor company to workers and pensioners in the context of an integrated model of capital structure. Results show that leverage decisions have a strong impact on the fair value of pension liabilities, and conversely that the presence of a pension plan decreases the optimal leverage ratio. The publication also shows that interior optimal values may exist for allocation decisions. In an extension to a dynamic setting, it finds that risk-controlled strategies allow the pension fund to take more risks, which has a positive effect on equity value, while protecting pensioners.

The model has important policy implications in that it provides a first step towards a much needed methodological framework for the design of firm-specific regulatory constraints and accounting valuation principles.

This research was produced as part of the «Asset-Liability Management and Institutional Investment Management» research chair at EDHEC-Risk Institute, sponsored by BNP Paribas Investment Partners.
[Download]

• **"Asset-Liability Management Decisions for Sovereign Wealth Funds"**,

Martellini Lionel, and Milhau Vincent, EDHEC-Risk Institute, Oct. 2010, 64 pages.

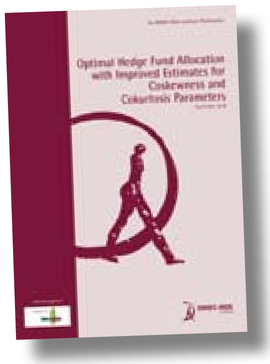
This publication proposes a quantitative dynamic asset allocation framework for sovereign wealth funds, modelled as large long-term investors that manage fluctuating revenues typically emanating from budget or trade surpluses in the presence of stochastic investment opportunity sets. The optimal asset allocation strategy takes into account the stochastic features of the sovereign fund endowment process, the stochastic features of the sovereign fund's expected liability value, and the stochastic features of the fund's assets.

Findings suggest that the investment strategy for a sovereign wealth fund should involve a state-dependent allocation to three building blocks, a performance-seeking portfolio (typically heavily invested in equities), an endowment-hedging portfolio (customised to meet the risk exposure in the sovereign wealth fund endowment streams), and a liability-hedging portfolio (heavily invested in bonds for interest rate hedging motives, and in assets exhibiting attractive inflation-hedging properties, when the implicit or explicit liabilities of the sovereign wealth funds exhibit inflation indexation).

This work highlights in particular the need for a hedge against the risk emanating from fluctuating revenues to the fund. In an empirical application, the composition of an endowment-hedging portfolio for an oil-based sovereign fund is investigated.

This research was produced as part of the "Asset-Liability Management Techniques for Sovereign Wealth Fund Management" research chair at EDHEC-Risk Institute, sponsored by Deutsche Bank.
[Download]

• **"Optimal Hedge Fund Allocation with Improved Estimates for Coskewness and Cokurtosis Parameters"**,



Hitaj Asmerilda, **Martellini Lionel**, and Zambruno Giovanni, EDHEC-Risk Institute, Sept. 2010, 40 pages.

Since hedge fund returns are not normally distributed, mean-variance optimisation techniques, which would lead to substantial welfare losses from the investor's perspective, need to be replaced by optimisation procedures incorporating higher-order moments and comoments. In this context, optimal portfolio decisions involving hedge fund style allocation require not only estimates for covariance parameters but also estimates for coskewness and cokurtosis parameters. This is a formidable challenge that severely exacerbates the dimensionality problem already present with mean-variance analysis. This publication presents an application of the improved estimators for higher-order comoment parameters, recently introduced by Martellini and Ziemann (2010), in the context of hedge fund portfolio optimisation. It shows that the use of these enhanced estimates generates a significant improvement for investors in hedge funds. It also documents that it is only when improved estimators are used that portfolio selection with higher-order moments consistently dominates mean-variance analysis from an out-of-sample perspective. These results have important potential implications for hedge fund investors and hedge fund of funds managers who routinely use portfolio optimisation procedures incorporating higher moments.

This research was produced as part of the "Advanced Modelling for Alternative Investments" research chair at EDHEC-Risk Institute, sponsored by Newedge Prime Brokerage.
[Download]

• **"From deterministic to stochastic life-cycle investing: implications for the design of improved forms of target date funds"**,

Martellini Lionel, and Milhau Vincent, EDHEC-Risk Institute, Sept. 2010, 68 pages.

In an attempt to address the concern over financially illiterate individuals being increasingly responsible for investment decisions related to retirement risk, the financial industry has started to design dedicated mutual fund products known as target date funds. These funds, whose aim is to provide investors with one-stop solutions to their life-cycle investment needs, typically propose a deterministic decrease of equity allocation until a date called the target date of the fund. This approach, however, has been found inconsistent with the prescriptions of standard life-cycle investment models (Viceira and Field (2007)).

This publication characterises in closed-form the optimal time- and state-dependent allocation strategy for a long-term investor preparing for retirement in the presence of interest-rate and inflation risks and a mean-reverting equity risk premium. It confirms that existing target date fund products are the wrong answer to the right question, and that the opportunity cost involved in purely deterministic life-cycle strategies is found to be substantial for reasonable parameter values. It also documents that reasonably fine partitions of the set of investors and market conditions, only marginally more complex than current partitions based solely on time horizon, allow substantial welfare gains compared to existing target date funds.

These results have important practical implications since they suggest that a parsimonious set of life-cycle investment benchmarks can be designed, which could serve as relatively accurate proxies for a whole range of retail investors' optimal long-term investment strategies.

This research was produced as part of the "Dynamic Allocation Models and New Forms of Target Date Funds" research chair at EDHEC-Risk Institute, sponsored by UFG-LFP.
[Download]

• **"Improved Beta? A Comparison of Index-Weighting Schemes"**,

Amenc Noël, Goltz Felix, and **Martellini Lionel**, EDHEC-Risk Institute, Sept. 2010, 44 pages.

This publication analyses a set of equity indices whose aim is to improve on capitalisation weighting and thus to provide "improved beta". Four main weighting schemes are analysed: efficient indices, fundamental indices, minimum-volatility indices, and equal-weighted indices. Empirical results for US data on these indices show that the average returns of all four alternative index construction methods

are superior to those of cap-weighted equity indices and that, by several measures of risk-adjusted performance, they are likewise superior. With the notable exception of fundamental indices, which have substantial exposure to the value factor, none of the aforementioned weighting schemes has a significant style bias. The analysis suggests that their superiority to capitalisation weighting can be explained by better diversification rather than by greater exposure to rewarded risk factors.
[Download]

EDHEC-Risk Institute researcher co-authors CFA Institute Research Foundation monograph

The Research Foundation of CFA Institute, a not-for-profit organisation established to promote the development and dissemination of relevant research for investment practitioners worldwide, has just released a monograph which looks at the recent and future impact of the financial crisis on the investment management industry.

Co-authored by Yale School of Management Frank Fabozzi, EDHEC-Risk Institute Sergio Focardi, and Intertek Group Caroline Jonas, *Investment Management after the Global Financial Crisis* brings together a review of literature, conversations with industry players, industry observers, executive recruiters, and academics and focuses on what the industry has identified as challenges in the post-crisis period.

The work addresses portfolio construction, asset allocation, risk management, management fees, the redistribution of roles in investment management, as well as ethics and regaining the trust of the investor, and makes ten key recommendations.

Commenting on the release Professor Focardi said: "From mid-2007 through the first quarter of 2009, financial markets were shaken by a series of shocks. It is important that the investment management industry learns lessons from this crisis to understand what needs to be done differently going forward. Everyone in the industry will need more 'science,' a more systematic consideration of the true risks that lie ahead, be they the risk of extreme events, liquidity risk, counterparty risk, or systemic risk. At the same time, investors are asking for more transparency in products and processes and are increasingly reluctant to pay high fees for low returns. The industry needs to propose strategies and a fee structure more aligned with today's reality. We hope that the monograph's findings can help impart valuable lessons on today's industry players."

Professor Focardi will be touring Europe to discuss the monograph's results and recommendations, starting with Zurich (January 25), Geneva (January 26), Frankfurt (February 1), and Amsterdam (February 24).
Download the monograph.

New research chair on inflation endowed by OTPP

EDHEC-Risk Institute is pleased to announce the creation of a research chair entitled "Advanced Investment Solutions for Liability Hedging for Inflation Risk" with the Ontario Teachers' Pension Plan (OTPP). The new research chair will be overseen by Professors Noël Amenc, **Lionel Martellini**, and Bernd Scherer

A recent surge in inflation uncertainty has increased the need for investors to hedge against unexpected changes in price levels. Inflation hedging is a concern of particularly critical importance for pension funds, in situations when pension payments are indexed with respect to consumer price or wage level indexes.

The implementation of inflation-hedging portfolios has become relatively straightforward in specific contexts where either cash instruments (i.e. Treasury inflation protected securities) or dedicated over-the-counter derivatives (such as inflation swaps) can be used to achieve perfect hedging. More generally, however, the lack of capacity for inflation-linked cash instruments and the increasing concern over counterparty risk for derivatives-based solutions leaves most investors with the presence of non-hedgeable inflation risk. Another outstanding problem, even when perfect inflation hedging is possible, is that such solutions generate very modest performance given that real returns on inflation-protected securities, negatively impacted by the presence of a significant inflation risk premium, are typically very low.

In this context, the research chair aims to analyse the design of novel forms of inflation-hedging portfolios that do not solely rely on inflation-linked securities but instead involve substantial investment in traditional asset classes and real assets. Overall these novel forms of inflation hedging solutions should be engineered to generate higher expected performance for a given inflation hedging level, which in turn will allow for a decrease in the cost of inflation hedging.

Grand Opening of EDHEC Risk Institute–Asia

EDHEC-Risk Institute marked its official Asian debut at an exclusive ceremony and reception held at its newly opened Singapore premises on January 21.

The grand opening was placed under the auspices of Mr Heng Swee Keat, Managing Director of the Monetary Authority of Singapore, and His Excellency Olivier Caron, Ambassador of France to Singapore, who delivered keynote speeches on the occasion.

Mr Heng Swee Keat used the opportunity to warn against the risks of property bubbles in Asia and announce that the regulator would require local banks and significant insurers to set up risk management committees following their next annual general meetings.

Doctor Sung Cheng Chih, Chief Risk Officer of the Government of Singapore Investment Corporation speaking at the Grand Opening of EDHEC Risk Institute–Asia

Also speaking at the event were GIC Chief Risk Officer and Group Executive Committee Member Dr Sung Cheng Chih, who presented his views on current challenges faced by long-term investors, and AXA Investment Managers Global Head of Investment Solutions and Board Member Mr Thibaud de Vitry, who explained why his organisation would be supporting the Institute's research in Asia.

The roll of speakers was completed by Mr Olivier Oger, Dean of EDHEC Business School and Professor Noël Amenc, Associate Dean for Development and Director of EDHEC-Risk Institute.

Through presentations and testimonials, the event underlined the relevance of the research conducted by EDHEC-Risk Institute for financial institutions and end investors. It was also an opportunity to introduce EDHEC Risk Institute—Asia, which will serve as a platform for generating and disseminating academic insights into investment management issues of global importance and particular relevance for investors and institutions in Asia.

Risk Management Presentations in Boston and New York

Following up on successful presentations in Singapore and Hong Kong which drew over two hundred participants, EDHEC-Risk Institute scientific director **Lionel Martellini** will discuss advances in risk management pioneered by the Institute at special events organised in New York on February 8 and Boston on February 9.

Entitled "Paradigm Shifts in Investment Management: Why Risk Management Adds Value in Asset Management", these events will present the institutional investment research carried out by EDHEC-Risk Institute in recent years and discuss industry developments that can be expected in the light of advances in academic research.

Further information and registration: **New York**, **Boston**.

EDHEC-Risk Institute strengthens international advisory board

EDHEC-Risk Institute is pleased to announce that seven new distinguished members have joined its international advisory board, which brings together high-level representatives from regulatory bodies, leading pension funds, professional organisations, and business partners.

The new board members are as follows:

- **Christopher Ailman**, *Chief Investment Officer, California State Teachers' Retirement System (CalSTRS)*
- **Tai Tee Chia**, *Deputy Chief Risk Officer and Director of the Risk and Performance Management Department, Government of Singapore Investment Corporation (GIC)*
- **James Davis**, *Vice President, Investment Planning & Economics Asset Mix & Risk, Ontario Teachers' Pension Plan (OTPP)*
- **Mark Fawcett**, *Chief Investment Officer, NEST Corporation*
- **Stuart Lewis**, *Deputy Chief Risk Officer and Chief Credit Officer, Deutsche Bank*
- **Chong Tee Ong**, *Deputy Managing Director, Monetary Authority of Singapore (MAS)*
- **Bruno de Pampelonne**, *President, Tikehau Investment Management and President, EDHEC Business School Alumni Association*

The role of the international advisory board is to validate the relevance and goals of the research programme proposals presented by the Institute's management and to evaluate research outcomes with respect to their potential impact on industry practices. The board also advises on the objectives and contents of projects deriving from the expertise of the research centre, thereby ensuring that executive programmes remain at the forefront of developments in the marketplace.

Sixth edition of EDHEC-Risk Alternative Investment Days announced

The next edition of EDHEC-Risk Institute's Alternative Investment Days, will be taking place on 5-6 April, 2011 at The Tower in London.

The conference aims to present the research conducted by EDHEC-Risk Institute and to discuss its results with the institutional investor and fund manager communities. The event is structured to appeal to institutional investors, alternative investment managers, and policy makers and consists of plenary sessions complemented by limited enrolment streams and workshops allowing in-depth exploration of special themes.

This year's agenda will include a look at the historical record of private equity investments, trade-offs between commodity futures and other proxies for commodity investment, optimal hedge fund allocation, performance of fund of hedge funds, strategies for capturing the risk premium of commodity futures, and the benefits of alternative investments in the context of diversification and inflation hedging.

Business school news

New Lille and Nice campuses inaugurated

Over five thousand special guests and alumni from class of 1940 to class of 2010 took part in the official inaugurations of the School's campus extension in Nice, and new campus in Lille, which were held in early October.

Home to EDHEC-Risk Institute, the Nice seafront campus' extension increased teaching and learning facilities from 7,000 to 10,500 square meters. Its centre-piece is a new three-floor building that includes thirteen new lecture halls, new classrooms and IT labs, a new library, numerous breakout rooms for study activities, a new cafeteria, a new virtual-trading floor, new e-learning labs, and two terraces overlooking the sea. The new premises have been specifically designed for the executive and international audiences and will support the continued development of the School's graduate finance programmes. A new building programme, to be completed by 2013, will add another 5,000 square meters on seven floors, and further transform and enhance the campus facilities.

With its unique architectural design and a landscaped park of twenty acres, the School's new campus in Lille has been designed to meet the highest international standards with respect for the environment and provide students with superior pedagogical, sporting, cultural and hospitality facilities. It will support the continued growth of the School's business administration programmes.

School invited to join Global Schoolhouse initiative

The Singapore Economic Development Board has invited EDHEC-Risk Institute at EDHEC Business School to join the Global Schoolhouse initiative.

Launched in 2002, the Global Schoolhouse initiative aims at establishing Singapore as a world-class education hub by attracting the world's leading centres of excellence in education and research, with strong industry linkages. It also aims to grow education as an engine that will sustain the country's economic growth by enhancing capability development, and attracting and retaining talents.

Global Schoolhouse institutions represent the best in their respective fields, across a spectrum of disciplines, ranging from business and management to biomedical sciences, engineering and applied sciences. Other participants in the initiative offering business programmes include INSEAD, the University of Chicago Booth School of Business, and S P Jain Institute of Management.

Important information for prospective applicants

Application Information

Executive track:

The next deadline for application for October 2011 admission (Europe-based programme) is 13 May 2011.

The next deadlines for application for February 2012 admission (Asia-based programme) are 13 May 2011 and 16 September 2011.

EDHEC-Risk Institute is seeking around fifteen executive track participants in Europe and in Asia.

Residential track:

The deadlines for application for October 2011 admission (Europe-based programme) are 28 January 2011 and 31 March 2011.

The deadlines for application for February 2012 admission (Asia-based programme) are 28 January 2011, 31 March 2011, and 13 May 2011.

Programme presentations

Programme presentations will be held in Asia, Europe, and the Americas. To register for a presentation, please contact **Maud Gauchon**.

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