

EDHEC PhD in Finance

N E W S L E T T E R

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Where do we contribute?

One of the main objectives of any PhD programme is to train students to become active researchers and advance knowledge by publishing in peer-reviewed journals. When the EDHEC PhD in Finance was launched in 2008, the stated objective for our graduates was to publish in practitioners' peer-reviewed journals such as the *Journal of Portfolio Management*, the *Financial Analysts Journal*, the *Journal of Fixed Income*, and other similar industry-oriented journals. Given the fact that our students are for the most part professionals who continue to work while completing the PhD, this objective was in line with our population's interests in professional-oriented topics. Of course, it did not preclude the publication of articles in academic finance journals on mainstream topics.

The publications of our PhD graduates to-date are listed in the references below with their names in bold. Our first cohort of students graduated in 2011, but the bulk of our PhD graduates was spread out over the years 2012 to 2015 (22 overall). As expected, most of their publications are in practitioners' peer-reviewed journals, but we still note three publications in two academic journals, the *Journal of Financial and Quantitative Analysis* and *Economics Letters*. Let us first summarise the three academic contributions and then move to our main line of production.



René Garcia, Professor of Finance, EDHEC Business School and Director, EDHEC PhD in Finance

The first paper by Garcia, **Mantilla-Garcia** and Martellini (2014) offers a new model-free measure of aggregate idiosyncratic volatility. It is easy to compute at any frequency from the cross-section of stock returns, it is very much correlated with the VIX and it has good predictive power for future aggregate returns. Another contribution (**Ozik** and Sadka, 2015) considers the hedge fund industry. Hedge fund managers justify share restrictions as a means of protecting the common interest of the shareholders. However the paper shows that since managers may also act as investors in their own funds, the information asymmetry potentially allows them to trade in advance of their clients to avoid losses when recent outflows have hit the funds. The last contribution

looks at the disposition effect, which can be defined as a tendency for investors to sell shares, the prices of which have increased, while keeping assets that have dropped in value. This anomalous behaviour has received much attention in the academic literature and one of the leading explanations was tax optimisation. **Firth** (2015) measures household investment decisions undertaken in a setting that is free from investment taxes and shows that the disposition effect is unequivocally present. These three publications in volatility modelling, alternative investments and household finance illustrate the width of the contributions to be expected from our PhD graduates.

The same width is present when looking at the publications in practitioner-oriented journals. Of course, risk in various forms with its corollaries of hedging and stress testing figures prominently as the backbone of this research, but portfolio allocation, project valuation and big data add to the diversity.

The three papers by Martellini, Milhau and **Tarelli** are a perfect illustration of the types of risk issues that are crucial to practitioners. Improving risk budgeting techniques, creating good hedging strategies against inflation and the trade-off between estimation risk and optimality risk are central issues in risk and portfolio management. In the first paper, they build conditional risk parity strategies, explicitly designed to respond to changes in interest rate levels. The second paper provides a formal analysis of the problem of hedging inflation-linked liabilities with nominal bonds in the presence of real rate uncertainty, as well as realised and expected inflation risks. The solution involves long-short nominal bond portfolio strategies, but their practical implementation is not an easy task in the presence of parameter uncertainty. In the last paper, the authors put forward several trade-offs in portfolio optimisation. Without estimation risk, all weighting schemes would involve a substantial loss of efficiency with respect to the maximum Sharpe ratio portfolio. However, in the presence of model risk several weighting schemes dominate the ex-ante maximum Sharpe ratio, including the risk parity weighting scheme, as well as the inverse volatility and the inverse variance weighting schemes, especially when small samples are used.

In their two papers, **Yang** and co-authors address risk issues in the context of derivatives markets. In the first, they develop an effective method to calculate bilateral-CVA (credit value adjustment)

by incorporating wrong-way risk (WWR) for a collateralised counterparty, i.e. when a counterparty's credit exposure increases as default probability increases. The second article applies the stochastic alpha-beta-rho (SABR) model to the foreign exchange options market. They show that the SABR model can fit and predict market volatility well, but does not provide a more accurate hedge ratio than the Black-Scholes model. This finding is surprising given the well-known criticism of the Black-Scholes model.

Another important aspect of risk management is stress testing in order to measure the resilience of a firm's financial health to various scenarios. The main problem though is to find appropriate scenarios that realistically capture the possible risks. **Kopeliovich** et al. find an original approach by reversing the process. They begin with a specified level of loss and pick the most likely different scenarios that are susceptible to generate the same level of loss. This approach provides much greater insight into the sources of risk that are the most important and the most stable across scenarios.

Mantilla-Garcia (2014, 2015) looks at risk in the context of dynamic portfolio strategies in investment management. The first paper introduces variations in maximum drawdown control strategies, namely the excess drawdown and the relative drawdown control strategies. The paper formally shows that the loss-control objectives introduced can be insured using dynamic allocation and details the potential benefits and implementation aspects of the strategies through examples. In the second paper, a growth-optimal portfolio insurance strategy is proposed. It is shown to outperform the popular constant proportion portfolio insurance strategy without higher risk.

In his two contributions, **Campani** (2014, 2015) adds to the vast literature on capital budgeting and valuing investment projects. In the first, he provides a way to compute the correct rate of return for projects with non-conventional cash-flows and allows practitioners to make sound investment decisions with comparable net present values. In the second, he puts forward the importance of the horizon effect in computing the cost of capital for project valuation.

Big data is present everywhere. It refers, roughly, to the collection and speedy processing of huge amounts of information often widely disseminated and unstructured. In their two contributions, **Ozik** and **Sadka** (2013, 2014) illustrate how this new

information can provide a new edge in trading but of course at the cost of collecting it. The first is based on collecting news items about hedge funds, while the second makes the point that the combination of unique sets of big data and technology-driven investment processes is a potential new source of uncorrelated excess returns.

I am confident that in the years ahead the EDHEC PhD graduates will continue to produce many more publications in practitioner-oriented and academic journals on a vast array of financial topics.

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Faculty and student interviews

FACULTY INTERVIEW: Frank Fabozzi



EDHEC PhD in Finance Core Faculty member Professor Frank J. Fabozzi

Since you joined EDHEC in 2011, you have been responsible for advising PhD candidates of the programme. Is it different advising experienced professionals and traditional PhD students?

Yes, there is a difference. Typically, in a traditional programme one is supervising a PhD candidate who entered a doctoral programme right after completing an undergraduate programme. Occasionally, in traditional programmes a PhD candidate has some meaningful work experience either as a full-time employee at a bank or asset management firm or as an intern while an undergraduate. At EDHEC, all PhD candidates hold or have held important executive or regulatory positions in the financial industry and are familiar with important issues facing the industry and the state-of-the-art tools for dealing with those issues.

Can you comment on what you perceive as successes and the reasons for them? What are the main obstacles to completing a successful dissertation?

Success, of course, is the completion of the dissertation. Ultimately, however, it is the publication of the research contained in the dissertation that attests to the contribution for the financial industry and it is a standard that can be used for assessing whether the candidate has completed a successful dissertation.

At EDHEC, the research requirement for the awarding of the degree involves either the candidate writing two stand-alone research papers or one lengthy product that contains two related research issues. All of the

completed dissertations I supervised to date have been two research papers. The majority of the PhD candidates who have completed two research papers have had both papers published or are forthcoming in prominent practitioner-oriented journals.

The most common obstacle is the selection of two topics to research that will be an important contribution to the financial industry. In traditional PhD programmes, often there are a good number of theoretical topics from which to select. In the EDHEC PhD programme, usually at least one topic is based on the candidate's professional experience. The struggle is often for a second topic that may be unrelated to the candidate's professional experience. Typically, it is that second paper that is the major hurdle. Yet, it is the challenge of identifying and successfully completing research in a new field that EDHEC prepares a candidate for.

There are a few instances, and I encountered one recently, where a PhD candidate is a perfectionist, continuing to extend research efforts beyond what would be viewed as a significant contribution to the literature and relentlessly polishing off the paper so that it is perfect. Although one would expect that encouragement from a supervisor that the research is good enough to be finalised, the perfectionist is not self-fulfilled and continues expanding and revising the dissertation.

What advice could you give to PhD students looking to identify a suitable/relevant topic for their dissertation?

The first source for our experienced executive PhD candidates in seeking to identify a suitable and relevant topic is to look at one's professional experience as to what the critical issues that require research are, and to discuss potential topics with colleagues. The second is to discuss potential topics with professors lecturing on one of the specialised courses offered at EDHEC. Typically, the professors of these courses can identify a good number of topics, as well as direct students to key papers that can lead to a suitable topic. Finally, reading research papers published in journals, particularly practitioner-oriented journals, may give rise to ideas for a topic.

What have been the main sources of satisfaction for you?

The principal source of satisfaction is the publication of the two research papers and the subsequent citing of those papers by my peers.

Looking at your numerous publications, you have interests in multiple research areas. What have been your main fields of interest lately?

The reason for my wide range of interests in asset management is that as a trustee/director of regulated investment companies in the BlackRock family of funds, I see all of the major challenges in implementing investment theory in the real world. For this reason I am interested in areas of valuation of complex financial products (cash and derivative products), risk management issues, optimisation issues, and portfolio construction issues. My chief interest is how one moves from theory to successful implementation. Theoretical papers are far less interesting. The literature is filled with theoretical papers with proposed models that have little chance of ever being implemented in practice.

You are the latest recipient of the James R. Vertin Award of the CFA Institute Research Foundation for lifetime excellence in research. What makes your research relevant to practitioners?

I believe that my response to the prior question is relevant here: my writings seek to take practitioners from theory to practice. Moreover, the complaint of many students in finance has been the failure of their professors to show the connection to the real-world. Sharing two experiences I had early in my career would be helpful here.

In the late 1980s I wrote a textbook on investment management. I wrote it the way I trained portfolio managers and traders when engaged by financial firms. The adoptions were not that great because I did not spend many chapters covering the nuances of financial theories that had not been proved useful in practice – that was the feedback obtained from the publisher. After the book had been out for a few years, I received a big pop in sales from a university. A representative from the publisher queried the professor who had adopted the textbook for several courses as to the reason for the adoption when in the past he did not adopt it. The professor stated that when on sabbatical leave he worked for an asset management firm and came to realise that the topics and presentation in the textbook dealt with real-world issues that were important for students to understand.

In the early 1980s when on faculty at MIT's Sloan School of Management, I discussed with Professor Franco Modigliani, the 1985 recipient of the Nobel

Prize in Economics who passed away in 2003, that I thought money and banking textbooks at the time did not effectively prepare students for understanding global capital markets. Professor Modigliani and I put together a detailed outline for a book on the foundations of financial markets that was far different from existing textbooks in that it dealt with the latest developments in capital markets and implementation challenges and issues. The publisher sent the outline to several reviewers. There might have been one or two favourable reviews, but in general the majority of reviewers thought the proposal was awful because it was far different than the coverage in existing books that were covering much more theory. Given the opportunity to publish a book by a Nobel Laureate (and probably solely for that reason), the publisher gave us a contract. The book was extremely successful and within one year the publisher asked us to update the book. That book is still used by Professor Robert Shiller for his financial markets course at Yale and his praise for the book because of its practical orientation is described in his Open Yale course on financial markets. A year or so later, Professor Modigliani and I co-authored an upper level version of the book.

You have edited and/or authored over one hundred books and you are the co-author of an authoritative series of finance books for finance professionals, academics, and students. Could you tell us more about the two latest ones on robust equity portfolio management, and on portfolio construction?

The first of the two books you mentioned has just rolled off the press: *Robust Portfolio Management in Equity Markets* co-authored with Woo Chang Kim and Jang Ho Kim, and published by John Wiley & Sons. Following the 1952 publication of Markowitz's mean-variance model, there have been numerous extensions of the original model seeking to overcome implementation issues. In this book, my co-authors and I focus on one of these extensions: addressing problems that arise because of the uncertainty of the estimated inputs (mean, variance, and covariance) in constructing equity portfolios. If in practice the estimated input values are even slightly different from their true values, the estimated optimal portfolio will actually be far from the best choice. We refer to the approach we cover in this book as robust equity portfolio management.

The need to focus on investment analytics in a coherent way has never been greater. In the aftermath of the 2007–2009 financial crisis there has been a

tremendous amount of regulatory change. Like most industries, the financial industry is trying to cope with the challenges of managing big data and the risks associated with using models. The second book, *Portfolio Construction and Analytics*, co-authored with Dessislava Pachamanova and to be published by John Wiley & Sons, is in page proofs. In this book, we look at the analytics process at investment firms from multiple perspectives: the data management side, the modelling side, and the software resources side. We review many widely used approaches to portfolio analytics, and discuss new trends in the application of alternative risk metrics, modelling approaches, and portfolio analytics system design. Although the theoretical underpinnings of some of the modelling approaches are provided or given context, our goal is emphasising how such models are used in practice.

As editor of the *Journal of Portfolio Management* and associate editor for several journals, what advice can you offer to graduates who would like to publish parts of their dissertations?

As I mentioned earlier, at EDHEC one alternative for completing a PhD dissertation is the writing of two papers. My preference for the two-research paper alternative is that upon the successful defence of the two papers, little modification is needed to convert the paper into a format acceptable for review by a journal.

Writing a paper of reasonable length (say no more than 45 double-spaced pages – a page limit imposed by many journals) that forces the candidate to write concisely with respect to the literature review, contribution to the literature, methodology, data and summary of results is important. A 90-100 page paper submitted for a candidate's paper will require considerable time to revise/modify to get it into shape to submit to a journal. As editor of the *Journal of Portfolio Management*, I typically give a "desk rejection" to such papers.

Writing a paper for submission to a journal requires that the candidate understand the critical issues and key results. A paper with more than about 15 tables/figures is often an indication that the author does not know what is important and wants to toss every single finding into the paper.

Lengthy papers are sometimes the result of the author seeking to address every possible question that he or she anticipates might be asked by reviewers. That

can be addressed today by providing supplementary material that journals now encourage authors to prepare and that is published online rather than in the published paper.

Two other critical aspects in preparing a paper for submission to a journal should be noted. First, the candidate should make sure that the contribution of the work to the financial industry is clearly stated. I have read papers where the contribution is buried deep in the paper and discussed very briefly, leaving the reviewer to try to figure out why the paper was written. Second, make sure that the forum selected to submit the paper is suitable. I have received well-written and technically correct papers submitted to a journal where I am an editor or a co-editor where the paper's topic is far out of the range of interest to the journal. Just browsing a paper's references listed at the end of the paper and not seeing any citations to the selected journal nor journals similar to the selected journal is a hint that the paper is probably off-target for the journal.

STUDENT INTERVIEW: Yaacov Kopeliovich



Yaacov Kopeliovich, Assistant Professor in residence position in the Finance Department, University of Connecticut, Israeli and American

You recently obtained a faculty position in the Finance department of the School of Business at the University of Connecticut. You are the first of our graduates in the executive track of the programme to become a permanent faculty member in an academic institution. This is quite a career change. Can you tell us what made this change possible?

On 31 August 2015 when I entered to give my first lecture as a new faculty of the finance department in the University of Connecticut, I completed a personal journey transferring from industry to academia. Let me try to capture in a few sentences the main stages of this career change.

I completed my PhD in Mathematics in 1994 and started the tenuous path to try and find an academic position. After 4 years of post-doctoral positions in two different universities in the US, I accepted the fact that I would not be able to get an academic position in pure mathematics and left to pursue a career in industry.

However, the desire to find my place in the academic world never left me. During the long years I worked in industry in various positions, I kept in touch with the other side by pursuing an independent research programme in pure mathematics and teaching in colleges as an adjunct professor. Meanwhile, the EDHEC PhD in Finance programme opened; I seized the opportunity to apply and I got accepted in 2011.

I remember that during our preliminary interviews you were asking if it will be possible to launch an academic career with your PhD even though you will follow the executive track. My answer was positive but I mentioned the obstacles that you could face.

I will not deny that part of the motivation of me pursuing this programme was to try and get an academic position in finance departments in the US. Having completed the programme relatively quickly I embarked on my search for an academic position.

At the time I had an executive position in a risk start-up. As a result, I was preparing the academic applications in parallel to my work.

From the beginning, it was clear that getting a research position in a respectable institution presented a formidable challenge. First you compete against new PhD graduates that are out of top schools. Naturally they evolve in an environment totally focused on building academic connections and on academic mainstream research agendas. This is not necessarily the case in our PhD programme since the executive students are practitioners and may want to work on issues that are more tuned to topics considered important by the financial industry. There are definitely differences in aim and focus between industry practitioners and academic researchers. For example, building a new financial model is just the first step of its implementation in an organisation. The model has to be integrated into the current infrastructure of the financial institution. These questions of industrial planning that are so important to any bank are absent from financial academic research, which is understandable. Thus a person that may complete his doctorate thesis on these questions will have a hard time to obtain a research position in any finance department. This is a bit of an extreme example, but it illustrates the difference in focus which stems from the fact that the populations are also very distinct in terms of age and industry experience.

Given these differences of aim and focus between industry and academia, how did you manage to overcome the challenge?

You need to plan everything meticulously and with great care. First, if you aimed at a truly academic position the research questions in your thesis must be appealing to a broad swath of researchers in finance departments. Second, and most importantly, the papers should aim at being published in highly-rated academic journals like the *Journal of Finance* or the *Review of Financial Studies*.

But there are alternatives for people like me with an industry background. Recently, universities move to what they call clinical positions. These are positions where the research component is not as crucial, and where teaching abilities and an outreach program to industry practitioners are greatly valued. These positions are similar to contract positions in industry. They are not tenure track positions and are based on multi-year contracts. As a result these positions are very suitable for industry practitioners that have some teaching experience. As I had a former teaching experience in CUNY Queens I was able to secure a clinical position of this type with University of Connecticut.

Was it hard to adapt to this new environment after so many years in the financial industry?

The transfer to this new world proved easier than I anticipated. The environment surrounding university campuses is very friendly and accommodating for new faculty. The university makes a great effort to accommodate the need of the new faculty members who were not part of an academic environment for many years. The department made a special effort to address some of my specific needs when the transfer happened in order to make it as smooth as possible.

Where do you think you bring a definite comparative advantage to an academic institution given that you have this dual profile of practitioner and PhD holder?

In the classroom, I believe it is a definite asset. I am able to bring my knowledge and industry experience to the students highlighting specific issues that they will not find in their textbooks. For example the microstructure of specific markets and the contemporary way that financial institutions manage their financial assets and set their targets. The students are very appreciative of these practical aspects as it eases their transfer to the contemporary workforce. It also provides ample opportunity for very lively discussions in class.

What were the main differences that you faced in your day-to-day life?

The higher education industry is in general a slower-paced environment than the financial industry. This represents a great advantage since you have more time to think about issues, but it may sometimes lead to some frustration as you may be used to greater expediency. In terms of job protection, it is also a more secure environment than the financial industry. Of course the compensation is not commensurate, but you are more able to define your own agenda.

How would you summarise your advice to current or future students of the EDHEC PhD in Finance who aim to secure a full-time position in an academic institution?

There is no one-size-fits-all recipe to make a transfer from the industry to an academic career a success. As I see it, students will have a better chance to obtain clinical academic positions than a traditional tenure-track research position. Having former teaching experience will help to secure such a clinical professor job. However, if your goal is to compete for academic research positions, you need to think about it right from the beginning and try to build a solid and original research agenda, and try to get publications early. A post-doctoral position may also help in this regard.

Programme and faculty news

Programme adds three new alumni

Over the past three months, three PhD candidates successfully defended their theses.

Rama Malladi's thesis titled "Evaluation of Alternative Managers and Strategies" suggests a mechanism for the regulators and investors to rank the fund managers whose CT portfolios have a higher return compared to Non-CT positions. The second part of his dissertation provides a theoretical framework to the equal-weighted versus value-weighted equity portfolio model, and demonstrates using simulation and data from 1926 to 2014 that equal-weighted strategy indeed outperformed value-weighted strategies.

Rama was advised by EDHEC PhD in Finance core faculty member Professor Frank Fabozzi and his thesis committee also included Professor René Garcia, PhD programme Director, Professor Bradford Cornell (CalTech) who served as external examiner and Professor Abraham Lioui (EDHEC Business School).

Based in California, Rama is Partner and Head of Analytics of the consultancy firm Kubera Analytics which is specialised in big-data, model-driven, and predictive analytics. He is also Finance Faculty member of California State University and holds an MBA from UCLA Anderson School of Management, and a Master of Technology from the Indian Institute of Technology (Madras). Rama is Chair of the Education Committee of the CFA Society of Los Angeles.

Matt Lanfear and **Mark Siebert** jointly wrote part of their theses, respectively entitled "*Extreme Weather Events and Financial Markets: The Impact of North Atlantic Hurricanes*" and "*Is Climate Change Affecting the Stock Market?*".

Their research is motivated by the need to better understand how the stock market reacts to major extreme weather events, both in the days leading up to the event, as well as in the immediately succeeding period. It focuses on the inter-relationship between the three key factors which influence investment decision, being returns, risk (volatility) and liquidity and how they respond to the impact of an extreme weather event. Matt Lanfear looks more particularly at extreme weather events as distress risk shocks while Siebert studies the relation between liquidity shocks and extreme weather events.

The dissertation committee included Matt and Mark's advisor Professor Abraham Lioui (EDHEC Business School), Professors René Garcia and Raman Uppal (EDHEC Business School) and the external examiner Professor Ekkehart Boehmer (Singapore Management University - Lee Kong Chian School of Business).

Based in the area of Zurich, **Matt Lanfear** is Independent Consultant and holds an MBA from IESE Business School and a Bachelor of Science in Physics from University of Reading.

Mark Siebert is Head of Specialised Finance, North America at National Australia Bank and resides in New York. He holds a Master of Applied Finance from Macquarie Graduate School of Management, a Bachelor in Geophysics from University of Adelaide and a Bachelor in Mathematics from Flinders University.

A PhD candidate joins EDHEC Infrastructure's team



Majid Hasan, EDHEC PhD in Finance candidate and Head of Asset Pricing, EDHEC Infrastructure Institute

The EDHEC PhD in Finance candidate and residential track participant, Majid Hasan has just joined the new EDHEC Infrastructure's team as Head of Asset Pricing. Majid is based in Singapore.

His primary responsibility is to build valuation and risk assessment models for infrastructure investments, both at the level of individual investments and portfolios. The guiding principle is to use academically sound and rigorous approaches to come up with practical solutions that can be readily implemented in the industry, taking an interdisciplinary approach towards modelling, which combines elements of asset-pricing and portfolio-allocation theory, game theory, filtering techniques and Bayesian inference.

Supervised by Professor Raman Uppal, Majid Hasan's dissertation, broadly speaking, focuses on the effects of institutional investors on the economy, and in particular the constraints they face. For example, it explores what happens when some of the institutions, such as pensions, have to maintain sufficient wealth to make their ex-ante contractually promised payments to their end-investors? How should such institutions invest their funds? What happens when different institutions face different constraints: some are constrained to keep their wealth above a certain level, others are constrained from borrowing above a certain limit, yet others are constrained to keep their extreme losses below a certain threshold? Results have been promising so far, and shed new light on several aspects of financial markets.

The 2015 Peter L. Bernstein Award for a PhD alumnus's article

An article in *The Journal of Derivatives* (Summer 2015), published by *Institutional Investor Journals*, has been named the winner of the 2015 Peter L. Bernstein Award. "*Risk Estimation and Hedging: A Reverse Stress Testing Approach*"—written by Yaacov Kopeliovich, PhD (2014) and his co-authors Arcady Novosyolov, Daniel Satchkov and Barry Schachter—investigates a recent innovation in risk management.

The Peter L. Bernstein Award honours extraordinary and compelling research published in any of Institutional Investor's 11 market-leading journals over the previous 12 months. The award is named for Peter L. Bernstein, the celebrated economic historian, consultant and Founding Editor of *The Journal of Portfolio Management*.

The winning paper was chosen through a blind review process by an independent committee that comprised Gary Gastineau (ETF Consultants LLC), William Goetzmann (Yale School of Management) and Ronald Kahn (BlackRock).

Kahn noted the analysis in the article has a very practical benefit—the potential to build better portfolios. "Reverse stress testing provides insight beyond traditional value-at-risk, by identifying the most likely tail risk scenarios," he added. Robert Arnott, Chairman and CEO of Research Affiliates LLC, stated: "The authors' approach provides information beyond that available from a traditional risk decomposition of VaR, as well as provides an algorithm that can be used to operationalise tail risk hedging."

Yaacov Kopeliovich and co-authors are all associated with RiXtrema. Yaacov has recently joined the department of finance of the University of Connecticut.

2016 Doctoral Research Workshops

Right from the first week of the three-year PhD in Finance Programme, participants have access to the doctoral research workshop at which core and affiliate faculty present and discuss their ongoing research.

The series gives participants exposure to original, unpublished, work covering a wide variety of research themes. As such, the series furthers participants' knowledge of current research and recent advances and helps them identify issues to investigate further in the context of their dissertation work. As PhD candidates contribute actively to academic research presentations, they get familiar with the standards and dynamics of an exercise that they too will have to perform.

The doctoral research workshops are held in London, Nice and Singapore – all sessions are, since the beginning of the Programme, accessible through the e-learning platform.

Over the first semester of 2016, the series features the following presentations by leading scholars on the PhD in Finance faculty as follows:

- "Commodities as Lotteries: Skewness and the Returns of Commodity Futures", Joëlle Miffre (EDHEC Business School), 13 January, Nice and online
- "Tail Risk in Hedge Funds: A Unique View from Portfolio Holdings", Vikas Agarwal (Georgia State University), 8 March, Singapore and online
- "Dynamic Noisy Rational Expectations Equilibria with Endogenous Information Production and Beliefs-Based Speculation", Jérôme Detemple (Boston), 10 March, Singapore and online
- "Bond Risk Premia: New Answers to Old Questions", Riccardo Rebonato (PIMCO), 7 April, London and online
- "Estimating Global Bank Network Connectedness", Francis X. Diebold (University of Pennsylvania), 28 April, Nice and online
- "Nonparametric Tail Risk and Stock Returns", René Garcia (EDHEC Business School), 7 June, London and online

A selection of recent and forthcoming presentations:

Innovations and Financial Regulation in Investment Banking

EDHEC PhD in Finance Programme core faculty member Professor **Raman Uppal** presented the results of his recent research work on "*The Intended and Unintended Consequences of Financial Market Regulations*" in Paris on 20 January 2016 during a workshop titled "*Innovations and Financial Regulation in Investment Banking*", organised by EDHEC-Risk Institute with the support of the French Banking Federation.

This also featured Dominic O'Kane with a presentation on "*Counterparty Risk in Derivatives Markets*" and Jean-Christophe Meyfredi with a presentation on "*The impact of the EU short selling ban on the sovereign CDS market*", both EDHEC Faculty.

Annual Hedge Fund Research Conference

Last January, in Paris was held the 8th Annual Hedge Fund Research Conference (Liquidity, Risk and Performance) at the House of Finance, Université Paris-Dauphine. EDHEC PhD in Finance Programme Director Professor **René Garcia** was one of the organisers and was part of the scientific committee which also includes Affiliate Faculty Member Professor **Vikas Agarwal** (Georgia State University). René Garcia was also discussant for Dr Guillaume Rousselet's latest research paper entitled "*Hedge Fund Portfolio Management with Illiquid Assets*", co-written with Professor Serge Darolles.

Professor **Raman Uppal** discussed his research work entitled "*Portfolio Choice with Model Misspecification: A Foundation for Alpha and Beta Portfolios*" and one of our PhD graduates, Dr **Gideon Ozik**, PhD (2011) with his co-author, Ronnie Sadka, presented "*What do measures of real-time corporate sales tell us about earnings management, surprises, and post-announcement drift?*"

The London Financial Regulation seminar series

An inter-disciplinary and inter-collegiate group of experts specialising in financial regulation will be holding a regular series of seminars, and more occasional conferences, on topics relating to this field at The Financial Markets Group Research Centre of the London School of Economics.

On 8 February 2016, Professor **Raman Uppal** presented a seminar on the consequences of financial market regulations.

Forthcoming presentations

- Professor **Giuseppe Bertola** is invited speaker for the 2016 Bank of Korea International Conference, 30-31 May in Seoul, "Employment, Growth, and Financial Integration" and for the International Monetary Fund's 2016 Jacques Polak Research Conference in honor of Olivier Blanchard, 3-4 November in Washington DC ("Labor Markets and Employment in EMU").
- Professor **René Garcia** will give the Halbert White Jr. Memorial JFEC Invited Lecture at the 9th Annual SoFIE Conference, 15-17 June 2016 in Hong Kong.
- Professor **Lionel Martellini** will be speaker at the JOIM-Oxford-EDHEC Retirement Investing Conference 2016, 11-13 September in Oxford.
- Professor **Raman Uppal** will showcase his latest research at the UBC Winter Finance Conference, 4-6 March in Whistler, Canada and at the Joint conference of Inquire Europe and Inquire UK (Institute for quantitative investment research), 13-15 March in Amsterdam.

Recent and forthcoming articles by faculty

Below is a selection of articles by programme faculty members which were published in 2015 or are forthcoming. Appearing are representative articles in scientific journals co-authored by faculty members publishing under their EDHEC Business School or EDHEC-Risk Institute affiliations.

- Reforms, Finance and Current Accounts. **Giuseppe Bertola**, and Anna Lo Prete Anna. *Review of International Economics*, 23: 3 (2015), pp. 469-488.
- Hidden Insurance in a Moral-Hazard Economy. **Giuseppe Bertola** and Winfried Koeniger. *RAND Journal of Economics*, Volume 46, Issue 4, pages 777-790, (Winter 2015)
- Stochastic Alpha-Beta-Rho Hedging For FX Options: Is It Worth The Effort? Yang Yifan*, **Frank F. Fabozzi**, and Michele Leonardo Bianchi. *Journal of Derivatives*, Vol. 23, No. 2 (Winter 2015), pp. 76-89
- In Search of Cash Flow Pricing. **Frank J. Fabozzi**, K.C. Chen, K. C. Ma, and Jessica West. *Journal of Financial Research*, Vol. XXXVIII, No. 4 (Winter 2015). pp. 511-527.
- A One-Factor Shifted Squared Gaussian Model for Interest Rate Modeling. Vincenzo Russo and **Frank J. Fabozzi**, *Journal of Fixed Income*, Vol. 25, No. 3 (Winter 2016), pp. 36-45.

- Investigating the Performance of Non-Gaussian Stochastic Intensity Models in the Calibration of Credit Default Swap Spreads. Michele Leonardo Bianchi and **Frank J. Fabozzi**. *Computational Economics*, Vol 46 (2015), pp. 243–273.

- Bilateral Counterparty Risk Valuation Adjustment with Wrong Way Risk on Collateralized Commodity Counterparty. Yang Yifan*, **Frank F. Fabozzi**, and Michele Leonardo Bianchi. *Journal of Financial Engineering*, Vol. 2, No. 1 (2015) 1550001.

- The Long and the Short of the Risk-Return Trade-Off. Marco Bonomo, **René Garcia**, Nour Meddahi, and Romeo Tédongap. *Journal of Econometrics*, Volume 187, Issue 2 (2015), pp.580–592.

- Recent Advances in Old Fixed-Income Topics: Liquidity, Learning and the Lower Bound. **René Garcia** and Jean-Sébastien Fontaine. Forthcoming in *Handbook of Fixed Income Securities*, First Edition, 2016 edited by Pietro Veronesi, John Wiley Sons, Inc.

- Economic Implications of Nonlinear Pricing Kernels. **René Garcia** and Caio Almeida, forthcoming in *Management Science*.

- Interest Rate Risk and the Cross-Section of Stock Returns. **Abraham Lioui** and Paulo Maio. *Journal of Financial and Quantitative Analysis* (2014) - Volume 49, Issue 02, pages 483–511.

- Hedging Inflation-Linked Liabilities without Inflation-Linked Instruments through Long/Short Investments in Nominal Bonds. **Lionel Martellini**, Vincent Milhau and Andrea Tarelli*. *The Journal of Fixed Income*. (2015) 24, 3, 5–29.

- Towards Conditional Risk Parity – Improving Risk Budgeting Techniques in Changing Economic Environments. **Lionel Martellini**, Vincent Milhau and Andrea Tarelli*. *Journal of Alternative Investments*. (Summer 2015), Vol. 18, No. 1: pp. 48–64.

- The Intended and Unintended Consequences of Financial-Market Regulations: A General Equilibrium Analysis. Adrian Buss, Bernard Dumas, **Raman Uppal**, and Grigory Vilkov. Forthcoming in *Journal of Monetary Economics*.

*Andrea Tarelli and Yang Yifan are graduates of the EDHEC PhD in Finance programme.

Alumni news in brief



The paper "On The Correct Evaluation of Cost of Capital for Project Valuation" authored by **Carlos-Heitor Campani**, PhD (2013), Professor of Finance at COPPEAD Graduate School of Business of the Federal University of Rio de Janeiro, published in *Applied Mathematical Sciences*, Vol. 9, November 2015, no. 132.



Kaipichit Ruengsrichaiya, PhD (2012), has joined The Securities and Exchange Commission (SEC) of Thailand as "Specialist" in the Capital Market Policy Research Department. He has also been appointed by the SEC secretariat general to hold a position of "member of Risk Management Committee" of Social Security Office of Thailand, which is one of the largest institutional investor (aiming for investment and risk management of Thailand's social security fund). He maintains his adjunct teaching positions in Bangkok at Chulalongkorn (Sasin Graduate Institute of Business Administration), Chiang Mai University (Faculty of Business Administration), Thammasat Business School and College of Management, Mahidol University.



Chris Firth, PhD (2015), CEO and co-founder of the Singapore based financial advisory firm, dollarDEX Investments published a paper, "The Disposition Effect in the Absence of Taxes", in *Economics Letters*, Vol 136, November 2015.



Yaacov Kopeliovitch, PhD (2014) and his co-authors Arcady Novosyolov, Daniel Satchkov and Barry Schachter won the 2015 Peter L. Bernstein Award for Best Paper for their work titled, "Robust Risk Estimation and Hedging: A Reverse Stress Testing Approach."

This paper was published in *The Journal of Derivatives*, Summer 2015, Vol. 22, No. 4: pp. 10–25.



At the 8th Annual Hedge Fund Research Conference (Liquidity, Risk and Performance) that was held in Paris in January 2016 **Gideon Ozik**, PhD (2011) showcased "What do measures of real-time corporate sales tell us about earnings management,

surprises, and post-announcement drift?". Gideon is founder and managing partner at MKT Mediastats, a technology and research firm specialised in deriving unique perspectives on assets from big data.



Yifan Yang, PhD (2014); his paper "SABR Hedging for FX Options: Is It Worth The Effort", co-authored with Frank Fabozzi and Michele Leonardo Bianchi, was published in *The Journal of Derivatives*, Winter 2015, Vol. 23, No. 2: pp. 76-89.

EDHEC Business School news

EDHECinfra, a new research centre at EDHEC Business School



Frédéric Blanc-Brude, Director of the EDHEC Infrastructure Institute

Olivier Oger, Dean of EDHEC Business School is pleased to announce the set up *EDHECinfra*, a specialist research centre manned by a team of some 10 researchers led by Frédéric Blanc-Brude, Director of the EDHEC Infrastructure Institute, and tasked with creating the knowledge needed to better match long-term savings with infrastructure investment.

The last few years have witnessed growing debate on the subject of investment solutions for the infrastructure sector. This has notably been the case during G20 meetings, with the Brisbane edition in 2014 having further accelerated action in this area. A real need exists on the part of both policymakers and industry for data and performance indicators that are suited to investment solutions in the infrastructure field. It therefore seemed to make sense for EDHEC to respond to this need by creating a new research centre specialising in the subject.

EDHECinfra's work will involve 1/ developing asset valuation and risk measurement tools suited to the characteristics of infrastructure projects; 2/ defining rules for gathering the information needed to use these tools; 3/ collecting data from investors and banking institutions; and 4/ regularly publishing performance indices for investors in private infrastructure project debt or equity.

EDHECinfra is also building a dedicated data-collection platform to enable the community of infrastructure investors to add information related to their investments to a confidential pool and also to

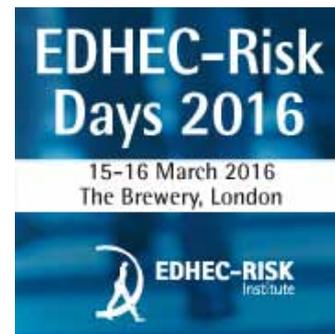
undertake more specific analyses or analyses unique to their portfolio.

This work already benefits from sizeable public and private support and will be conducted on a lasting basis. Information gathering – which is already underway – is to be extended to all world markets, while EDHEC*infra* benchmarks will be published on an annual basis as from the end of 2016.

Thanks to EDHEC*infra*'s work, the G20's objective of collecting enough information to foster the emergence of a fully-fledged infrastructure asset class is attainable by 2020. This achievement will lead to improved capital allocation both in the real economy – by enabling savings to better finance economic growth – and as regards the investment solutions available to pension funds and insurers.

EDHEC-Risk Institute news

Upcoming event



The EDHEC-Risk Days conference will take place on 15 and 16 March 2016 at The Brewery in London and is organised by an academic research centre for the benefit of professionals. This annual event will present the research conducted by EDHEC-Risk Institute and EDHEC Business School and discuss it with the institutional investment and fund manager communities.

On the first day, the **Passive Investment and Smart Beta Conference** will focus on passive investment and smart beta strategies. The latest research results on smart beta risk allocation solutions, factor-based investment strategies, robustness and live performance of smart beta as well as current misconceptions in smart beta investing will be presented. The conference will also be the occasion to discover the results of the latest European ETF survey.

On the second day, the **Institutional Money Management Conference** will present research of great interest to institutional investors on new frontiers in retirement solutions, multi-dimensional risk and performance analysis, active allocation and smart beta, hedge fund investing and multi-asset allocation solutions.

Day two will also include the **EDHEC*infra* Forum** presenting the latest research results on infrastructure investing from the EDHEC Infrastructure Investment Institute. The forum will open with a round table including the participation of industry experts and will look at how investors invest in infrastructure.

Full programme is available [here](#).

Get the latest news about the conference and react on Twitter with #ERIDays and via @EDHECRisk and @ScientificBeta.

The EDHEC-Risk Institute Director associated with a major discovery... in astrophysics



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

Lionel Martellini, Director of the EDHEC-Risk Institute and Core Faculty member of the EDHEC PhD in Finance programme is co-signatory to an article due to appear in the prestigious scientific journal, *Physical Review Letters*, reviewing the outcome of a major discovery made by the international LIGO/Virgo collaboration involving around 1,000 scientists from 19 research laboratories around the world (the paper is available [here](#)).

The paper, entitled "Observation of Gravitational Waves from a Binary Black Hole Merger", relates the detection on 14 September 2015 of a gravitational wave emanating from a binary black hole merger that took place 1.3 billion light years away in a distant galaxy. It represents the first-ever detection of a gravitational wave and the first ever detection of a signal originating from a black hole. The existence of gravitational waves, like that of black holes, was predicted in the theory of general relativity presented by Albert Einstein 100 years ago.

Fascinated by astrophysics since childhood, Lionel Martellini studied astrophysics at the University Paris 6 and the University of Princeton in parallel to his studies in finance. Since 2011, he has been associated as a doctoral student with the work of the Artemis laboratory, CNRS, Observatoire de la Cote d'Azur, Université de la Cote d'Azur. His contributions, published in the *Physical Review D* journal, focus on improving methods for detecting and analysing stochastic gravitational-wave backgrounds in a non-Gaussian context based on statistical tools also used in finance. The involvement of a financial researcher in astrophysics once again demonstrates that the

scientific approach goes well beyond the traditional boundaries created by the academic community and pleads for a genuine cross-disciplinary approach to research. It also represents just reward for astrophysics following a 30-year period in which it has seen many outstanding students and researchers leave for the financial industry.

A selection of recent EDHEC-Risk Institute Publications

• **Does Household Finance Matter? Small Financial Errors with Large Social Costs**

Harjoat Singh Bhamra, Raman Uppal



Households with familiarity bias tilt their portfolios towards a few risky assets. Consequently, household portfolios are under-diversified and excessively volatile. To understand the implications of under-diversification for social welfare, we solve in closed form a model of a stochastic, dynamic, general-equilibrium economy with a large number of heterogeneous firms and households, who bias their investment toward a few familiar assets. We find that the direct mean-variance loss from holding an under-diversified portfolio that is excessively risky is a modest 1.66% per annum, consistent with the estimates in Calvet, Campbell, and Sodini (2007). However, we show that in a more general model with intertemporal consumption, this loss is amplified because it increases household consumption-growth volatility. Moreover, in general equilibrium where growth is endogenous, we show that the welfare losses of individual households are magnified further through the externality on aggregate investment and growth.

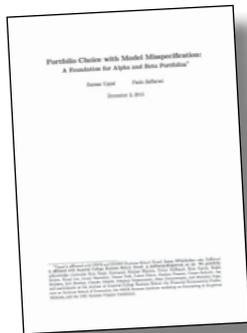
More...

• **Portfolio Choice with Model Misspecification: A Foundation for Alpha and Beta Portfolios**

Raman Uppal, Paolo Zaffaroni

In this paper, our objective is to provide a rigorous foundation for alpha and beta portfolio strategies. In particular, we characterise the properties of these strategies when there is model misspecification in

either the alpha component or the beta component of returns and show how to mitigate the effect of model misspecification for portfolio choice. The APT is ideal for this analysis because it allows for alphas, while still imposing no arbitrage. Our first contribution is to extend the interpretation of the APT to show that it can capture not just small pricing errors that are independent of factors but also large pricing errors arising from mis-measured or missing factors. Our second contribution is to show that under the APT, the optimal mean-variance portfolio in the presence of a risk-free asset can be decomposed into two components: an 'alpha' portfolio that depends only on pricing errors and a 'beta' portfolio that depends only on factor risk premia and their loadings.



More...

- **The Intended and Unintended Consequences of Financial-Market Regulations: A General Equilibrium Analysis,**
Adrian Buss, Bernard Dumas, Raman Uppal, Grigory Vilkov



In a production economy with trade in financial markets motivated by the desire to share labour-income risk and to speculate, this paper shows that speculation increases volatility of asset returns and investment growth, increases the equity risk premium, and reduces welfare. Regulatory measures, such as constraints on stock positions, borrowing constraints, and the Tobin tax have similar effects on financial and macroeconomic variables. Borrowing limits and a financial transaction tax improve welfare because they substantially reduce speculative trading without impairing excessively risk-sharing trades.

More...

Important information for prospective applicants

Application Information

Executive and Residential track

The next deadlines for application for September 2016 admission into the programme are 31 March and 31 May 2016.

EDHEC is seeking to matriculate ten to fifteen new participants in 2016.

Next programme presentations

Presentations are scheduled all year round in Asia, Australasia, Europe, North America and online.

Sessions are upcoming in Singapore (9-10 March), Montreal (21 March), Toronto (24 March) and London (5 April). Phone interviews from North America on 24 March.

For more information about the programme, to register for a presentation or to request an application form, please contact **Brigitte Bogaerts**.



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