EDHEC-Risk Institute
PhD in Finance
N E W S L E T T E R

April - June 2015

In this issue:

Obtaining an Information Edge – Past, Present and Future

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Thesis: "Essays on Hedge Funds",
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External examiner: Tarun Ramadorai (Oxford University).

According to the efficient market hypothesis, asset prices should reflect all publicly available information (Fama, 1970). Hence, to achieve trading profits, one would need to obtain information unavailable to the public. This editorial highlights how information advantage had been achieved in past years, the difficulties of maintaining it in current environment, and finally, suggestions as to how technology could be leveraged to maintain an edge in the future.

Access to Private Information

Recent academic literature and court records provide consistent evidence that private information has flown from corporate insiders to agents involved in financial asset management through the likes of social connections, education networks (Cohen, Frazzini and Malloy, 2008, 2010), geographical proximity (Coval and Moskowitz, 2001), expert networks and direct contacts. Recently, however, regulators and law enforcement agencies have actively gone after organisations and individuals suspected of illegally benefitting from access to private information. Some notable examples include the case of Raj Rajarathnam – a hedge fund manager who relied on inside information illegally supplied through expert networks[1,2] – and the related case of Rajat Gupta – a Goldman Sachs Director and board member who shared restricted information with Rajarathnam.[3]

Systematic Approach

Hedge funds strive to maintain an edge but given the increased scrutiny they find themselves under, they embrace alternatives including reliance on systematic trading strategies where trades are determined

1 - SEC v. Rajaratnam, 622 F.3d 159 (2nd Cir. 2010)
2 - U.S. v Rajaratnam, 09 Cr. 01184
3 - U.S. v. Gupta, 11 Cr. 00907

by quantitative processes and are often executed automatically. Thus, from the flow of information perspective, these programmes are less controversial because individuals no longer play a significant role in determining investment decisions once the algorithms are coded.

High-Frequency Trading (HFT) is one area where technological advancement and automation allow managers to benefit from an information advantage without legally exposing traders and fund managers. Nevertheless, HFT practices give rise to other controversies and recently, data providers have been providing some HFT trading firms with preferential access to market-moving information. The attorney general of the State of New York ordered Thomson Reuters to discontinue its practice of selling early access to University of Michigan's Consumer Survey results but until then, some funds had obtained the latter results fractionally ahead of their official release to the public, which provided these funds with an edge over other subscribers.[4,5]

CTA/ Managed Futures strategies performed well during the period leading to (and during the first part of) the financial crisis, and they particularly contributed to the popularity of this investment style. Hedge funds, such as Man AHL, Winton Capital, Canlab and BlueCrest Capital, have grown dramatically since 2008. However, with the increased attraction of significant capital, one would expect returns to diminish (Fung, Hsieh, Naik and Ramadorai, 2008). "My view has always been that the raw trend-following strategy will become less efficacious over time as more money has come into it", says David Harding, founder of two of the largest systematic strategy funds, Winton Capital and AHL.[6]

Indeed, despite stellar performance early on, these strategies have recorded mixed results since 2009. Despite the controversy around HFT, systematic trading strategies across a variety of frequencies seem to be the logical investment-style choice for fund managers looking for an alternative edge in the current regulatory environment.

Correlation Risk

In addition to the drop in the capacity to generate abnormal returns of a given strategy upon reaching a substantial AUM, another risk is presented – correlation risk. Once many funds use similar information and engage in similar strategies, their returns become more correlated, which makes them individually less attractive than an allocation from a diversification perspective. An example of such risk is the Quant crisis of August 2007 (see Khandani and Lo, 2007), which can be partly explained by a market-wide liquidity event (Sadka, 2010).

One explanation for that event is that many quant funds have, over time, adapted similar trading strategies, such as momentum and value investing – once one large such fund suffers an idiosyncratic shock which forces liquidation of its positions, all funds experience losses, which further leads to depressed asset prices (e.g. a liquidity spiral as in Brunnermeier and Pedersen, 2009).

Seeking Alpha Elsewhere

To mitigate such correlation risk, funds set out to look for alpha elsewhere, for example, by acquiring access to new datasets. One such example is access to media data, for instance, tapping into the Thomson Reuters news feed. This data feed became quite popular amongst HFT funds, due to the ease with which such data can be processed. However, upon becoming popular, returns from using such data are rumoured to have significantly dropped. Anecdotal evidence was provided a couple of years ago via another medium, this time social media, when a false tweet from the official Twitter handle of the Associated Press news agency about a possible terror attack on the White House caused an immediate impact on prices, only to be reversed after several minutes once the rumour had been falsified.[7] The fundamental concern with using such new data, is that data providers have the incentive to make them generic, yet once they are, profitability drops while correlation risk increases.

Therefore, given the limitation of using the popular datasets, when obtaining uncorrelated returns, one should branch out to uncharted territories and use data which would generate uncrowded trades.

Uncharted Territories

Portfolio managers and financial analysts have recently begun to harness the power of unstructured data. Hedge-fund analysts occasionally hire consultants to count cars in retailers' parking lots in order to project revenues during the intense shopping seasons. Some analysts purchase satellite images of retailers' parking

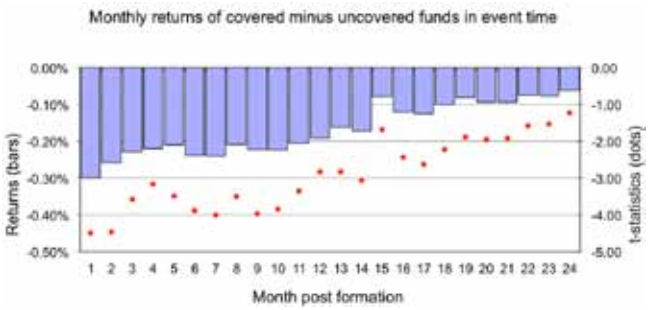
4 - http://www.ag.ny.gov/press-release/ag-schneiderman-secures-agreement-thomson-reuters-stop-offering-early-access-market
5 - http://www.reuters.com/article/2013/07/08/thomsonreuters-consumerdata-idUSL1N0FE0NZ20130708
6 - Jones Sam, Hedge funds battered in quant arms race, Financial Times, June 11, 2013, http://www.ft.com/intl/cms/s/0/11a17dca-d299-11e2-aac2-00144feab7de.html?siteeditio n=intl&siteedition=intl#axzz2e0y3o6p9
7 - http://www.cnbc.com/id/100646197

lots to estimate its businesses activity ahead of the release of their quarterly earnings.[8]

With the growth in availability of big data, capturing anything from consumer/investor behaviour, point of sales transactions, price dynamics of product and services offered online, there is a tremendous opportunity for innovative fund managers to achieve an edge by systematically obtaining and analysing unstructured data, to generate uncorrelated, uncrowded returns.

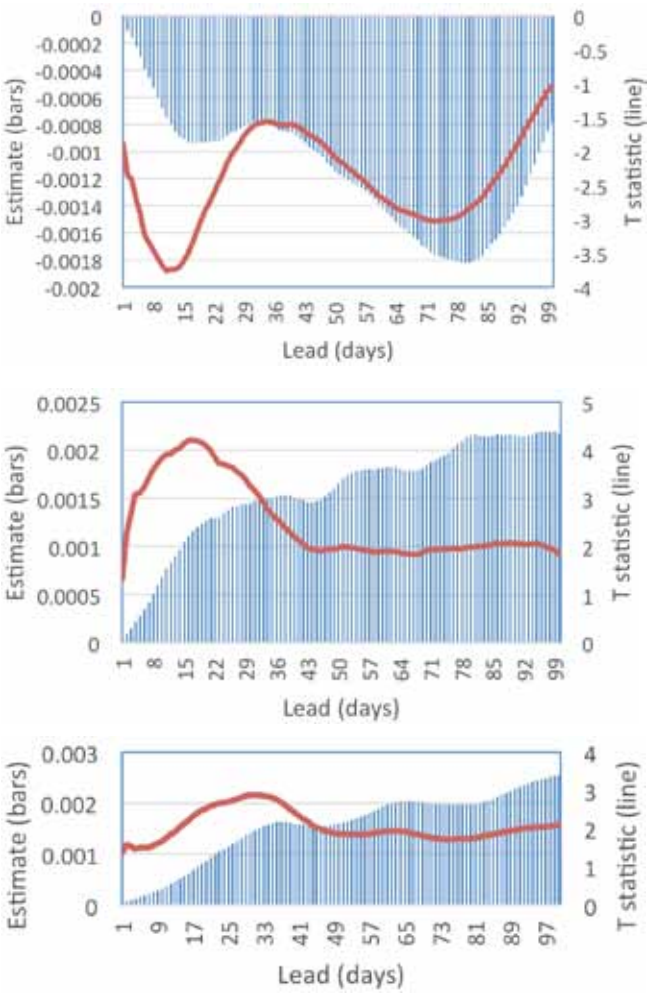
Examples

Examples of the systematic collection of novel data-sets and their use for financial applications are provided in two articles written by the authors, Ozik and Sadka (2010, 2013). The motivation for these studies was an anecdotal observation that superstar fund managers tend to underperform. To formally test this phenomenon, the authors set out to collect information about the media coverage of hundreds of equity hedge funds. This information, however, is not readily available. With the help of a professional Programmer and using some advanced web searching techniques, the authors were able to obtain information about the media coverage of roughly 1,000 equity hedge funds over the period 1999-2008. Indeed, as predicted, formal statistical tests provide systematic evidence of the underperformance of media-covered funds. For example, the figure below shows that, regardless of context, media-covered funds underperform uncovered funds by 4% within two years post coverage. The monthly return spreads are statistically significant for more than one year post coverage.



In Ozik and Sadka (2013), the authors found that not all media sources produce the same type of information. Corporate-communication covered funds tended to outperform, while those covered by general media, such as national newspapers, tended to underperform. Furthermore, processing the unstructured media data to determine the tone (sentiment) allowed the authors to document biases in media coverage and measure investor reaction to news.

In a recent work with co-authors, I show how media data may be used to build firm-level, economically driven media-derived indicators: (a) intensity of media coverage; (b) disagreement-level among sources covering a firm; and (c) conditional sentiment. The analysis shows that implementing naive long-short strategies based on these indicator values allows investors to achieve significant excess returns. The figures below provide results (coefficient estimates and t-stats) of cross sectional regression analysis whereby stock returns are regressed on the three indicators in an event-time study setup.



Conclusions

This editorial argues that despite regulatory, correlation and performance challenges faced by fund managers, the availability of new data presents a unique opportunity for innovative fund managers willing to explore new frontiers. The combination of unique sets of big data and technology-driven investment processes is a potential new source of uncorrelated excess returns.

8 - http://www.cnbc.com/id/38722872

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Faculty and student interviews

FACULTY INTERVIEW: Raman Uppal

Raman Uppal, Professor of Finance, EDHEC Business School, teaches Continuous-time Financial Economics in the PhD in Finance Programme

Since you joined EDHEC in 2011, you have taught in two programmes: MSc Risk and Finance and the PhD programme. Both programmes have students who are working in industry. In what way has this changed your way of teaching and enriched your experience as a teacher?

Both the MSc programme and the PhD programme that I teach in share a common feature: the students in both of these programmes are working in full-time jobs and are attending courses only on a part-time basis. But, the two courses are also different in two important ways: the students in the PhD programme are older – typically in their late thirties or early forties – with much more work experience and also stronger quantitative skills.

As both the MSc and PhD students are studying on a part-time basis, I have redesigned my courses so that I can cover a fair amount of material during the short period of time that the students are present in school. In particular, the courses have been redesigned to emphasise that there is a very structured way of thinking about all of the material in the area of capital markets and asset valuation. While in a traditional course an instructor may mention that there are several topics that are covered when studying capital markets, in my course I highlight that there is only a single idea that is the foundation for all of the ideas studied in capital markets and valuation. This single idea is the concept of no arbitrage or replication. I then use this single idea to provide a unifying theme for all the topics that I cover in the course. The main advantage of having a single unifying theme is that it allows the students to focus on learning a single key idea and its broad implications, as opposed to learning lots of different ideas, with the connections between these ideas not being completely clear.

But, because the students in the MSc programme are younger with less experience, in the course for these students the material is less technical and more applied. To make the material less technical, I spend a lot of time teaching the material using two-date and multi-date models set in discrete time; in contrast, most of the time in the PhD course is spent on studying these topics in a continuous-time setting. In order to make the courses more applied for the MSc students, each day the students work on two cases. These cases give students the opportunity to apply the knowledge acquired in class to real-world problems. In contrast, for the course taught to PhD students, I do not use any cases at all because the PhD students already have a substantial amount of work experience. Instead, I draw on their work experience to link the theory taught in class to the problems they are working on in their jobs.

What are your current research interests and how do they relate to your teaching? Are you communicating these ideas to students?

In my research, I answer three questions.

First, why do investors choose to invest in a particular way? For example, data shows that the median number of stocks in which a typical household invests is only three – clearly too few stocks to have a portfolio that is well diversified. Or, why do investors hold portfolios that are biased toward domestic stocks, rather than diversifying internationally?

Second, how should investors choose their portfolios? That is, how should investors design portfolios in light of the various imperfections that are present in the real world? For example, how should investors design portfolios in the presence of transaction costs and taxes, or how should investors choose portfolios when they have limited experience in assessing the risk and return of new asset classes such as private equity, or how should investors trade when the market is populated with not just investors who are fully rational, but also investors who trade on sentiment?

Third, I study the general equilibrium implications of the decisions made by investors. For example, if households invest in only three assets on average, how does this affect the risk-free interest rate and the equity risk premium and also what are the

implications on macroeconomic quantities such as aggregate investment and the economy-wide growth rate? Or, as more and more investors in private equity acquire experience, what is the effect on the liquidity premium?

Teaching and research are very closely-related activities. In many ways, teaching drives research. For instance, while thinking about the material I will be teaching in the course, I identify gaps in the literature which provide avenues for future research. Frequently, students ask questions based on their own work experience that highlight gaps in existing research and these questions are the motivation for future research. And, the research one does is often reflected in the material that one teaches. For example, I am currently working on very fundamental research about the design of portfolios in the presence of pricing errors and model misspecification (often referred to as "alpha" in the industry). This is a very important area for investment professionals and I intend to include this material in future courses that I teach, especially courses designed for practitioners.

Can you elaborate on a few recent working papers that illustrate this connection of your research to business and society?

The first paper I will describe is titled "`Does Household Finance Matter? Small Financial Errors with Large Social Costs", and it is co-authored with Harjoat Bhamra, a former PhD student who I supervised at London Business School. In this paper, we study the implications for households of investing in only a few stocks, which creates two kinds of inefficiencies: under-diversification and under-investment in risky assets. To understand their implications for growth and 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. Consistent with the existing literature, we find that the loss from holding a biased, and hence, under-diversified portfolio is modest. The first new insight is that this small loss from lack of diversification is amplified because it increases household consumption-growth volatility. The second new insight is that these effects at the individual-household level are magnified further in general equilibrium through their effects on aggregate investment and growth; that is, there is a negative externality. Our results show that financial markets are not a mere sideshow to the real economy and that financial literacy, financial regulation and financial innovation that improve the portfolio choices of households can have a significant positive impact on social welfare. The analysis in this paper is undertaken in continuous time and the model is thus a very nice application of the material that I teach in the PhD course on Continuous Time Financial Economics.

A second paper is titled "Where Experience Matters: Asset Allocation and Asset Pricing with Opaque and Illiquid Assets", which is co-authored with Adrian Buss (INSEAD) and Grigory Vilkov (Frankfurt School of Finance and Management). The motivation of this paper is to understand how to invest in alternative assets, such as private equity, hedge funds and real assets, which are illiquid and opaque, and thus pose a challenge to traditional models of asset allocation. In this paper, we study asset allocation and asset pricing in a general-equilibrium model with traditional liquid assets, such as equity in large firms, and an alternative risky asset, which is opaque and incurs transaction costs. In our model, we also consider two kinds of investors who differ in their experience in assessing the alternative asset. We find that the optimal asset-allocation strategy of the relatively inexperienced investors is to initially tilt their portfolio away from the alternative asset and to hold more of it with experience. Counter-intuitively, a decrease in the transaction cost for the alternative asset increases the portfolio tilt at the initial date, and hence, the liquidity discount. Transaction costs may induce inexperienced investors to hold a majority of the illiquid asset at later dates, even if they are pessimistic about future pay-offs, and produce a sizable liquidity discount. During periods when the alternative asset is illiquid, investors trade the liquid equity index instead, leading to strong spillover effects from the alternative asset into the market for the liquid asset. In this paper, markets are incomplete because of the transaction costs. This is in contrast to the material covered in the PhD course on Continuous Time Financial Economics, where financial markets are assumed to be complete. Thus, this paper illustrates how the course material can be extended to incomplete-market settings with multiple investors who have different beliefs (because of differences in experience).

Did you have apprehensions about associating with a programme that is open to professionals and what is your experience to date?

When I first heard of a PhD in finance for executives, I had some misgivings and I wondered how this kind of programme actually worked. But, after working

at EDHEC for five years, I have been impressed by how many top scholars from the world are teaching the elective courses in this programme. And, I have been excited by the large number of students on this programme, many of whom are senior executives at top financial institutions and corporations.

My experiences to date have been largely positive. The best thing about the students on the PhD programme is their strong motivation and also their desire to answer big questions that are interesting not just to the academic community, but also to the business community. The students are mature and motivated, making it easy to teach in class and to work with them on research outside the classroom. The only challenging aspect of the PhD programme is that many students have great demands on their time – from their work and from their families – and therefore find it difficult to devote sufficient time to the programme.

What does your PhD course cover and what do you emphasise?

The course I teach covers material on continuous time finance.

The course can be divided into four parts. The first part of the course introduces students to the main concepts of modern finance, the principle of no arbitrage and the stochastic discount factor, and the mathematics for continuous time finance – Itô calculus. The second part of the course shows how these concepts can be applied to the valuation of a large class of derivatives: options on stocks, foreign exchange, forwards, futures and interest rates. This part also covers dynamic models of the term structure of interest rates. The third part of the course covers optimal consumption and portfolio choice models, both in a complete-markets setting, using martingale methods, and in an incomplete-markets setting, using dynamic programming in continuous time. The fourth part of the course covers dynamic asset pricing in equilibrium, where we study both partial equilibrium models, such as the intertemporal capital asset pricing model, and general equilibrium models in exchange and production economies.

The key feature of the course is that it provides a single framework that nests the different areas of finance covered in the course. That is, instead of covering a list of topics, I develop a single framework that can be applied to the wide variety of problems studied in the course.

As an advisor in the PhD programme you have had several experiences. Can you comment on what you perceive as successes and the reasons for them? What are the main obstacles to completing a successful dissertation?

The highlight of teaching in the PhD programme is to see students complete and defend their dissertation successfully. The key to achieving this is to work on the dissertation on a regular basis, devoting at least one or two days each week to the thesis. Conversely, the main obstacle to successful completion of the dissertation is the failure to devote regular time to research. Students who do not work on the thesis each week find it increasingly difficult to resume research work when they return to the dissertation after an interval exceeding a few weeks. For example, a student who does not work on the thesis for one month, needs at least a day to recall what exactly he or she was doing when they stopped working on it. And, if you have only one or two days to spend on the thesis, then spending a day to just recall the details means that progress is exceedingly slow. On the other hand, students who spend more than one day a week on the thesis make steady progress, and typically finish within the allotted two years.

STUDENT INTERVIEW: Stefano Dova

Stefano Dova, Managing Director, Co-Head of European Structuring - Structured Finance, Deutsche Bank, London, Italian and British

Could you tell us about your background and what you are doing today?

I am originally from Italy, where I studied at the Bocconi University and then I had a brief experience in Germany working for Allianz in quantitative asset management. That is when my interest for finance and quantitative topics started to develop. I then moved to London, where I took a range of different jobs in different asset classes including equities, fixed income products, derivatives and cash in a number of investment banks (JP Morgan, Merrill Lynch and Deutsche Bank). I have been a Managing Director at Deutsche Bank for 5 years and I am now European Co-Head of Structuring for "Structured Finance", which includes many credit products ranging from securitisation to non-performing loans.

You have worked in many different asset classes. How does this help you in your current job?

It helps me a lot. I have experienced the market for corporate bonds, so I know how a CFO thinks about issuing debt and that is a corporate finance decision. I have seen cash and derivatives on equities in the 2000s, when this was a very fashionable market. I have seen the impact of liquidity stresses in the swaps market when I was doing swaps and swaptions. I have felt the pain of institutions being hedged only on Delta One instead of having a good convexity hedge as well. I have gone through most of the large mergers and acquisitions and all the lending structure, the lending activity right before the crisis; I have witnessed the CDO bubbles first inflate and then explode, which I think gives me a very broad understanding of the market operators, both investors and investment banks.

Why did you decide that you needed to do a PhD at this stage of your career?

In all honesty, I had already decided to do a PhD when I finished university and took my first job in Germany. I applied for a doctorate then but an opportunity to join investment banking came up. It was a bullish and extremely positive time to develop a career in banking so I dropped my doctorate. I left Germany and I came to London to start a career in investment banking. It has been a roller-coaster journey where I have learned a lot in the first few years, because being a humble soldier on the ground you have to pick up all market technicalities, as I mentioned earlier. Now, I have been lucky enough to get to a managerial role. My job is rewarding, but I felt that I needed to enhance my professional experience with a challenging intellectual pursuit. I therefore came back to my original idea of building high-level academic knowledge and acquiring research skills, because you never stop learning in life.

Why did you choose this particular Programme?

I looked around and found a number of MBA or MSc offers. Doing a residential Programme in any institution was not currently an option for me because I have a family that entirely depends on me so I have to continue working. So I looked at part-time programmes. MBAs were not really of interest to me, because it is mostly about management. I wanted something that would be in the finance space. And within finance, I found the EDHEC PhD in Finance Programme which is clearly deeper than a master's Programme. I have, during my life as a manager, interviewed many candidates who have come from business schools, as well as many MSc candidates, and I felt that their preparation was not the type of inquisitive attitude that I was looking for. Therefore, I decided to select a doctoral programme taught in a school based in London and offering a part-time option. It was really the best choice for me.

At that time, did you talk to alumni or PhD candidates who were involved with the Programme?

I mostly decided by myself. Before starting the Programme, I talked to a colleague of mine, Igor Lojevsky, who recently successfully completed the Programme. He gave me very good advice and said that the Programme was high-standard and very challenging. That was the magic word! I wanted to take on a real intellectual challenge so it confirmed my first impression.

You have attended the first two courses, taken exams on these courses and now you have completed the last two core courses of the first academic year. Did these courses correspond to what you were expecting, particularly in terms of an intellectual challenge?

Before starting the courses, all I had on my shelves at home was Frank Fabozzi's book on fixed income securities and a couple of wildly published books on equity, derivatives and credit derivatives. As of today I have 55 books…This probably points to the fact that I have a tendency to buy books or maybe it is just because I have been stimulated in looking into a number of different topics. I have to say that the first two courses were a bit of a shock. Although the shock was a bit anticipated, since I had not been actively studying for 15 years, apart from taking the GMAT to enter the programme. You have to recover the necessary concentration to listen for hours to lectures and try to understand concepts that are explained to you. I am very happy about the shock because it gave me adrenaline to continue; I have so far learnt a lot. I had never imagined that I would learn so much. Working in financial markets for a long time tends to foster a bit of arrogance about your knowledge of the world. This has been a humbling experience for me because I acquired a deeper background on many things that I took for granted and it helped me understand the "many more elements" that I have to go through and look at. This explains the 55. Overall, the Programme has been absolutely at the highest standard as far as I can judge it and teachers are of outstanding quality; I really hope that I can complete this first year successfully. All of the assignments have been crucial for me because I have been trying to study these topics just before joining the classes and just reading the books is not enough. It does not fix the knowledge in your mind and it does not give you a practical approach to theoretical concepts.

If you had to mention one main challenge in the Programme for you, what is it?

Due to the nature of the Programme, the challenge is time. Finding the time and being able to concentrate in very short lapses of time is a test, as you may have two hours on a plane or two hours in the morning for which you have to be concentrated from the very first minute and stay focused until the very last. Whereas when you are studying in a residential Programme, you can actually let your mind wander a little bit more during the day. Over here, you have to switch off every other stimulus to your mind and then just focus on the things you are reading, otherwise this time is not enough if you have a full-time job.

So, how do you manage your time? Do you use any possible free time, do you get up before your family?

Yes I do. I get up and go to the office before everyone else. I study a bit there, and then in the evening when my son goes to bed. I study on weekends, in the morning, and I take turns with my wife; I also try to find time for the family because it is important, in the afternoon and in the evening. I fly every week and I study on the planes, I take my books with me. Essentially, I study everywhere. I try to think about things even if I do not have the books in front of me, for instance if I have some spare time, when I am around or when I am travelling or when I am waiting for someone. I try and rethink about everything that we did and everything I have been reading because I found it a productive way of rehearsing.

I generally just try to be as attentive as possible in class, and every evening at home I try to review the material immediately to fix it in my head. Then when I study, I study each chapter and then the related literature together. So, generally I am studying in parallel the notes and the books or the papers.

Do you feel the Programme impacts your daily life at work?

It makes me think more about things that I would have normally done mechanically. It improves my self-confidence with respect to what I am doing, because I have foundations behind it and I believe that because of the theoretical foundations what I am doing is probably more justified. To judge the spillovers in terms of practical applications, I would have to see what happens when I try and write something…it will probably be somewhat related to what I do in my daily job. Then, my research and the conclusions I will draw are going to directly impact my job.

Have you been enriched by the diversity of backgrounds of your fellow classmates?

Massively! I think this is one of the most surprising facts about this Programme. I believe there are at most two people of the same nationality in the classroom. It's incredible, you have Europeans, Asians, Americans, people that come from the buy side and the sell side, people working in governmental agencies… it is possibly one of the most enriching factors of the Programme. To be able to have discussions with your fellow classmates, to find out about their experiences, their points of view with respect to lectures, assignments, and everything that we do in class, and see how different it is from yours… all this gives you like a 3D-dimension around

a problem that you may have looked at only from your own perspective. Confronting all these different approaches increases your mental diversification, which in my view is critical to learn. For an assignment, I recently worked with a gentleman from the United States. We were 10,000 miles apart and had to discuss issues and exchange points of view about this assignment. That was a first for me. Moreover we were coming from different horizons, since he works in hedge funds and I work in a bank. It was very good for my learning experience. To go back to my point earlier, the experience is humbling because you are reminded that there is not one way of looking at things.

Do you have a good idea of what you intend to do in your dissertation?

At the moment I have too many ideas, which is a problem because when you have too many things that you would like to investigate it is like being in a shop with too many pairs of shoes, you do not know which one to bring home. For some of them I have a bit of fear, fear of the mathematics involved; for some others, I have a bit of concern with respect to finding the right data. One of the ideas is to incorporate big events such as Greece restructuring its debt or, or North Korea deciding to test a new nuclear missile or other significant political events into a usual time-series model. You can consider them as special unique features, but they seem to be occurring regularly, so what approach should be considered? Work has been done in this area so how can you contribute to measuring the effect of these events on security prices and volatilities? At which frequency should you consider these events? Are you a portfolio manager, a risk manager or a central banker? All these questions are essential in determining the way to approach the problem. So everything has its own challenges and I will have to find the right one for me.

Programme and faculty news

2015 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 inception of the Programme, accessible through the e-learning platform.

Over the course of 2015, the series will feature the following presentations by leading scholars on the PhD in Finance faculty or PhD **graduates** as follows:

Enrique Schroth (Cass Business School)	"Debt Renegotiation and Investment Decisions across Countries"	15 January 2015, London and online
Torben Andersen (Northwestern University)	"Intraday Trading Invariance in the E-mini S&P 500 Futures Market"	17 March 2015, Singapore and online
Federico Bandi (John Hopkins University)	"The scale of predictability"	19 March 2015, Singapore and online
Gideon Ozik, PhD (2011)	"Fund Structure and the Long-Run Performance of Activism"	25 March 2015, London and online
Peter Christoffersen (University of Toronto)	"Oil Volatility Risk and Expected Stock Returns"	13 April 2015, Nice and online
Raman Uppal (EDHEC Business School)	"Does Household Finance Matter? Small Financial Errors with Large Social Costs"	28 May 2015, London and online
Harrison Hong (Princeton University)	"Days-to-Cover and Stock Returns"	1 September 2015, Singapore and online
Abraham Lioui (EDHEC Business School)	"Understanding Dynamic Mean Variance Asset Allocation"	30 September 2015, London and online
Michael Brandt (Duke University)	"Switching Risk Off: Correlations and Risk Premia"	21 October 2015, London and online
Allan Timmermann (University of California San Diego)	"Network Centrality and Pension Fund Performance"	22 October 2015, London and online

Programme adds two new graduates

Chris Firth successfully defended his thesis, "Household investment mistakes: Evidence and Avoidance", on 17 February 2015 in Nice. Both chapters cover issues in household finance. The first tests predictions of normative finance models using a unique set of disaggregated data on household investment portfolios in Singapore. The second uses the existence of a financial driving license in Singapore to see if it impacts the portfolio performance of households.

Chris was advised by Singapore Management University Professor Ekkehart Boehmer and his thesis committee also included Professor René Garcia, EDHEC PhD in Finance Programme Director, and Professor Laurent Calvet, HEC Paris, who served as external examiner.

Chris Firth is CEO and co-founder of a licensed financial advisory firm, dollarDEX Investments, based in Singapore. He is author of a book that was described as "arguably the best book written in Singapore for the Singaporean investor". He holds degrees from National University of Singapore and MIT Sloan School.

Igor Lojevsky, with his thesis "Multi-Country Study of Yield Curve Dynamics in a Monetary Policy Framework", studies the yield curve in many countries with a focus on the monetary regime in place, that is inflation targeting or the use of an exchange rate anchor. Of particular interest is the analysis of the macro-financial linkages according to these monetary regimes.

The dissertation committee included Igor's advisor Professor Giuseppe Bertola (EDHEC Business School), Professor René Garcia, EDHEC PhD in Finance Programme Director and the external examiner, Professor Marco Bonomo (Insper, Brazil).

Igor Lojevsky was Vice Chairman of Eastern Europe for Deutsche Bank's Asset & Wealth Management

and Corporate Banking & Securities divisions, Chief Executive Officer and Chief Country Officer Deutsche Bank Russia & CIS.

He holds an MBA from the University of Massachusetts Boston, a Master's in Systems Engineering from the OMSK Technical University in Russia and a PhD in Technical Cybernetics.

There are now 20 alumni from the PhD in Finance programme since the beginning of September 2008.

Staff, management and faculty extend their warmest congratulations to the first twenty participants who successfully defended their theses for the degree of Doctor of Philosophy in Finance.

Their research work is very diverse and brings new insights on strategic and tactical asset allocation, inflation modelling and hedging, asset pricing, corporate financial policy, pension fund management, systemic risk, household investment, and more.

These graduates include three women and represent fifteen countries across three continents. The group includes five participants working in academe who had enrolled in the PhD in Finance Programme to strengthen their academic credentials for careers within research and educational institutions, as well as fifteen participants who work in the investment management industry or in central banking.

PhD in finance Graduation Ceremonies, 2 October 2012 and 24 March 2014, EDHEC London campus.
From left to right: Dr Kaipichit Ruengsrichaiya, Dr Vijay Vaidyanathan, Dr Gideon Ozik, Dr Daniel Mantilla-Garcia, Dr Michelle Sisto, PhD graduates, Mr Tomas Franzén, Chairman of the International Advisory Board of EDHEC-Risk Institute, Dr Rehan Syed, PhD graduate, Mr Frédéric Ducoulombier, Director of Executive Education at EDHEC-Risk Institute, Dr Andrea Tarelli, PhD graduate, Professor René Garcia, Director of the EDHEC-Risk Institute PhD in Finance, Dr Seong-Han Kim, PhD Graduate, Professor Raman Uppal, Core Faculty Member, EDHEC-Risk Institute PhD in Finance

To date, five graduates are in academic positions, four are in post doctoral positions, three have created their own company and nine working papers have been published in peer-reviewed academic and professional journals.

Graduate	Dissertation title	Dissertation committee
Mr Gideon Ozik, PhD (2011), Founder and President, Alphaness (USA)	"Essays in Hedge Funds"	Chair: Raman Uppal (EDHEC) External examiner: Tarun Ramadorai (Oxford University) Advisor: René Garcia (EDHEC)
Mr Daniel Mantilla-Garcia, PhD (2011), Head of Research, Optimal Asset Management (USA)	"Essays on Idiosyncratic Risk and Return Predictability"	Chair: Raman Uppal (EDHEC) External examiner: Ravi Bansal (Duke University) Advisor: René Garcia (EDHEC)
Mr Foo Chiah Shiung (Kelvin), PhD (2012), Senior Risk Manager, Standard Chartered Bank (Singapore)	"Two essays on Volatility Transmission and Default Prediction for Individual Firms"	Chair: Robert Kimmel (EDHEC) External examiner: Tim Bollerslev (Duke University) Advisor: René Garcia (EDHEC)
Mr Kaipichit Ruengsrichaiya, PhD (2012), Lecturer in Finance, Mahidol University, College of Management (Thailand), and Adjunct at Chulalongkorn (Sasin Graduate Institute of Business Administration) and Chiang Mai University (Faculty of Business Administration)	"Theoretical Essays on Corporate Governance in Theory of Finance"	Chair: Giuseppe Bertola (EDHEC) External examiner: Jakša Cvitanic (Caltech) Advisors: Florencio Lopez-de-Silanes (EDHEC) and Pierre Mella-Barral (EDHEC)
Mr Vijay Vaidyanathan, PhD (2012), CEO, Optimal Asset Management (USA)	"Essays in Venture Capital and Predictability"	Chair: Florencio Lopez-de-Silanes (EDHEC) External examiner: Ulrich Hege (HEC) Advisor: Pierre Mella-Barral (EDHEC)

Mr Carlos Heitor Campani, PhD (2013), Professor of Finance, COPPEAD Graduate School of Business – Federal University of Rio de Janeiro (Brazil)	"Essays in asset allocation with recursive utility and regimes in asset return"	Chair: Raman Uppal (EDHEC) External examiner: Michael Brandt (Duke University) Advisors: René Garcia (EDHEC) and Abraham Lioui (EDHEC)
Ms Cybele Almeida, PhD (2013), Risk Manager, UBS Wealth Management (Switzerland)	"Cash Flow risk, dispersion risk and world consumption: role and relevance for the cross-section of international equity returns"	Chair: René Garcia (EDHEC) External examiner: Romeo Tedongap (Stockholm School of Economics) Advisor: Abraham Lioui (EDHEC)
Mr Neo Teng Hwee, PhD (2013), Chief Investment Officer and Head of Investment Products and Solutions, UOB Private Bank (Singapore)	"Volatility and dependence transmission in Asian equity and bond markets"	Chair: Ekkehart Boehmer (EDHEC) External examiner: Peter Christoffersen (University of Toronto) Advisors: Stoyan Stoyanov (EDHEC) and René Garcia (EDHEC)
Mr Andrea Tarelli, PhD (2013), Postdoctoral Research Fellow, Bocconi University (Italy)	"Dynamic term structure models and inflation: implications for asset allocation and corporate debt structure"	Chair: René Garcia (EDHEC) External examiner: Mikhail Chernov (UCLA) Advisors: Abraham Lioui (EDHEC) and Lionel Martellini (EDHEC)
Mr Seong-Han Kim, PhD (2014), Managing Director, Singularion Asset Management (UK)	"Stock market momentum, investor sentiment, and the accruals anomaly"	Chair: René Garcia (EDHEC) External examiner: Allan Timmermann (University of California, San Diego) Advisor: Raman Uppal (EDHEC)
Ms Michelle Sisto, PhD (2014), Associate Professor and Global MBA Director, EDHEC Business School (France)	"Responsibility, Regulation and Asset Pricing"	Chair: René Garcia (EDHEC) External examiner: Cesare Robotti (Imperial College) Advisor: Abraham Lioui (EDHEC)
Ms Lee Su Fen, PhD (2014), Lead Economist (Macroeconomic Surveillance), Monetary Authority of Singapore	"Central clearing and pre-emptive liquidity hoarding in financial networks"	Chair: Abraham Lioui (EDHEC) External examiner: Rama Cont (Imperial College) Advisor: Frank Fabozzi (EDHEC)
Mr Samuel Sender, PhD (2014), Researcher and Faculty Member, Tilburg University (The Netherlands)	"Essays on corporate DB pension plans and on cointegrated time-series and panel models"	Chair: René Garcia (EDHEC) External examiner: Jean-Pierre Urbain (Maastricht University) Advisors: Stephane Gregoir (EDHEC) and Pierre Mella-Barral (EDHEC)
Mr Rehan Syed , PhD (2014), Chief Investment Officer, minMax Asset Advisors (USA)	"Essays on Conditional Inflation Hedging and Manager Performance Persistence"	Chair: Giuseppe Bertola (EDHEC) External examiner: Robert Kosowski (Imperial College) Advisor: Florencio López-de-Silanes (EDHEC)
Mr Chan Kai Wing, PhD (2014), Vice President, Risk Manager, Wells Fargo (USA)	"Loan default rates in the great recession"	Chair: Stéphane Gregoir (EDHEC) External examiner: Anindya Banerjee (University of Birmingham) Advisors: Giuseppe Bertola (EDHEC)
Mr Yang Yifan, PhD (2014), Quantitative Analyst, Standard Chartered Bank (Singapore)	"BR-CVA with Wrong Way Risk and SABR Hedging for FX Option"	Chair: René Garcia (EDHEC) External examiner: Michele Leonardo Bianchi (Bank of Italy) Advisors: Frank Fabozzi (EDHEC) and Ekkehart Boehmer (EDHEC)
Mr Ramachandran Shankar, PhD (2014), Professor and Head of Center for Advanced Financial Studies, Institute for Financial Management and Research (India)	"Comovement in Asset Prices and Low Latency Trading"	Chair: René Garcia (EDHEC) External examiner: Kingsley Fong (University of New South Wales) Advisor: Ekkehart Boehmer (EDHEC)
Mr Yaacov Kopeliovich, PhD (2014), Director of Research, RiXtrema Inc (United States)	"Can we outperform simple rule strategies: Evidence from volatility market and optimized bond portfolios"	Chair: René Garcia (EDHEC) External examiner: Steven Kou (NUS) Advisor: Jakša Cvitanic (EDHEC)
Mr Chris Firth, PhD (2015), CEO and co-founder, Dollardex Investments (Singapore)	"Household Investment Mistakes: Evidence and Avoidance"	Chair: René Garcia (EDHEC) External examiner: Laurent Calvet (HEC) Advisor: Ekkehart Boehmer (EDHEC)
Mr Igor Lojevsky, PhD (2015), Vice Chairman (Retired), Deutsche Bank AG (UK)	"Multi-Country Study of Yield Curve Dynamics in a Monetary Policy Framework"	Chair: René Garcia (EDHEC) External examiner: Marco Bonomo (Insper) Advisor: Giuseppe Bertola (EDHEC)

PhD participants work on dissertation topics selected for their academic and industry relevance and according to each candidate's research interests and professional goals. Dissertation work starts in the first year of the Programme with the drafting of a proposal, will intensify as course requirements wane, and should be completed at the end of the third year. During all phases of the dissertation process, candidates work closely with their director. The dissertation should make a significant contribution to the advancement of knowledge and practices in the field and should be of sufficient originality and quality for publication in leading peer-reviewed professional journals.

The next PhD in Finance graduation ceremony is going to take place on 28 September 2015 at EDHEC premises in London.

A selection of recent and forthcoming presentations:

International Conference on Labour Markets in/after Crises
In mid-May 2015 in Bonn, Professor Giuseppe Bertola presented "Labour Policies and Capital Mobility in Theory and in EMU" at the International Conference on Labour Markets in/after Crises organised by the University of Bonn.

BI-SHoF Conference in Oslo
Professor René Garcia gave a talk at the Norwegian Business School in Oslo on 5 June 2015. The conference was hosted by the Centre for Asset Pricing research of BI Norwegian Business School. His paper was titled "Funding Liquidity, Market Liquidity and the Cross-section of Stock Returns". Several prominent researchers in asset pricing from Europe and the United States were presenting their work at this conference. The 2016 BI-SHoF conference will be hosted by the Swedish House of Finance in Stockholm.

CEIBS Finance Conference 2015
Professor Florencio López-de-Silanes was keynote speaker at the CEIBS Finance Conference held in Shanghai on 22 May 2015.

Organised for the first time by The Department of Finance and Accounting of China Europe International Business School (CEIBS), this conference commemorated the 15 years of "Law and Finance", a highly cited paper authored by Professor López-de-Silanes. The theme was "Law, Regulation and Finance" and this conference presented an opportunity for scholars to get together and exchange new ideas.

Florencio Lopez-de-Silanes, is Professor of Finance and Law and Scientific Director of the Family Business Center at EDHEC Business School.

MPT Forum Tokyo
Professor Lionel Martellini will give the keynote address at the MPT Forum to be held in Tokyo on 4 December 2015. The MPT Forum is the Japanese finance/quants association composed of financial practitioners and academic researchers, the Japanese equivalent to such institutions like Inquire in Europe or the Q-Group in the United States.

The Seventh Biennial McGill Global Asset Management Conference
In early June, Professor Raman Uppal presented his paper titled "Where Experience Matters: Asset Allocation and Asset Pricing with Opaque and Illiquid Assets" at The Seventh Biennial McGill Global Asset Management Conference. This conference brings together leading academics and members of the investment banking industry to focus on new issues in global capital markets. The conference is in cooperation with the Journal of Financial and Quantitative Analysis.

Raman Uppal's paper co-authored with Adrian Buss and Grigory Vilkov was also presented at the EDHEC-Princeton "Academia Meets Practice" Conference in New York in April 2015, at EPFL and HEC Lausanne mid-June and at the Brunel Studies in Finance and Economics Conference in London at the beginning of June 2015.

Inquire UK Spring Conference
Professor Raman Uppal gave a talk at The Institute for Quantitative Investment Research (Inquire UK) in Coventry mid March 2015 presenting a paper titled "Why Does the Equally Weighted Portfolio Outperform the Value- and Price-Weighted Portfolios?". Inquire UK is an organisation dedicated to furthering research and understanding in the field of quantitative investment methodologies

Recent and forthcoming articles by faculty
Below is a selection of articles by Programme faculty members which were published in 2014 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.

• Time-varying Leverage Effects. **Bandi, Federico** and Renò, Roberto. Forthcoming in *Journal of Econometrics*.

• Reforms, Finance and Current Accounts. **Bertola, Giuseppe** and Lo Prete Anna. Forthcoming in *Review of International Economics*.

• Portfolio Selection in the Presence of Systemic Risk. Biglova, Almira; **Fabozzi, Frank** and Ortobelli, Sergio. *Journal of Asset Management* Vol. 15, No. 5 (October 2014), pp. 285-300.

• A Three-Factor Model for Mortality Modelling. **Fabozzi, Frank**; Giacometti, Rosella; Rachev, Svetlozar and Russo Vincenzo. Forthcoming in the *North American Actuarial Journal*.

• Measuring and Explaining Pension System Risk. **Fabozzi, Frank**. Forthcoming in J*ournal of Pension Economics & Finance*.

• The Long and the Short of the Risk-Return Trade-Off. Bonomo, Marco; **Garcia, René**; Meddahi, Nour and Tédongap, Romeo. *Journal of Econometrics*, June 2015, 187, pp.580-592.

• A Model-Free Measure of Aggregate Idiosyncratic Volatility and the Prediction of Market Returns. **Garcia, René**; Mantilla-Garcia, Daniel*; **Martellini, Lionel**. *Journal of Financial and Quantitative Analysis*, December 2014, 49, pp. 1133-1165.

• Giants at the Gate: Investment Returns and Diseconomies of Scale in Private Equity. **López-de-Silanes, Florencio**; Phalippou, Ludovic; Gottschalg, Oliver. Forthcoming in *Journal of Financial and Quantitative Analysis*.

• Law and Finance After a Decade of Research. La Porta Rafael; **López-de-Silanes, Florencio** and Shleifer, Andrei. *Handbook of the Economics of Finance*, vol 2, pp. 425-491, November 2014.

• Money Laundering and its Regulation," Economics and Politics, Chong, Alberto and **López-de-Silanes, Florencio**. *Economics & Politics* Volume 27, Issue 1, pages 78–123, March 2015

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

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

• Towards Conditional Risk Parity – Improving Risk Budgeting Techniques in Changing Economic Environments. **Martellini, Lionel**; Milhau Vincent and Tarelli Andrea*. Forthcoming in *Journal of Alternative Investments*.

• Asset Prices with Heterogeneity in Preferences and Beliefs. Bhamra, Harjoat and **Uppal, Raman**. *The Review of Financial Studies* 2014, 27.2, 519-580.

• Stock Return Serial Dependence and Out-of-Sample Portfolio Performance. DeMiguel, Victor; Nogales, Francisco J.; **Uppal, Raman**. *Review of Financial Studies*. Apr2014, Vol. 27 Issue 4, p1031-1073.

* Daniel Mantilla Garcia and Andrea Tarelli are graduates of the EDHEC PhD in finance Programme

Alumni news in brief

• Chris Firth, PhD (2015), was invited to present his paper, "The Disposition Effect in the Absence of Taxes", at the Berlin-Princeton-Singapore Workshop on Quantitative Finance that took place in late June 2015 in Singapore.

• Yaacov Kopeliovitch, PhD (2014), will start as full time professor at the University of Connecticut at the end of August. His main responsibilities will be teaching finance and applied research. Until now, he has worked in New York as Director of Research at risk modelling and stress testing solutions provider RiXtrema.

His paper "Robust Risk Estimation and Hedging: A Reverse Stress Testing Approach", co-authored with Arcady Novosyolov, Daniel Satchkov and Barry Schachter was recently published in the *Journal of Derivatives* (Summer 2015)

• A co-author of Daniel Mantilla-Garcia, PhD (2011), Maxime Bonelli discussed their recent paper, "A Predictive System with Heteroscedastic Expected Returns and Economic Constraints", at the 2015 Annual Meetings of the European Financial Management Association (EFMA) that was held in Amsterdam, Netherlands, in the last week of June 2015.

• Shankar Ramachandran, PhD (2014) has been appointed as a full Professor of Finance at Great Lakes, a Business School founded by Dr. Bala - an Emeritus Professor at Kellogg School of Management, Northwestern University. Great Lakes has two campuses in India and it offers MBA programme. The school features among the top ten private business schools in India.

• Andrea Tarelli, PhD (2013), in Post-Doctoral Fellowship at Bocconi University, published an article in Bankers, Markets & Investors titled "Estimation Risk versus Optimality Risk: An Ex-Ante Efficiency Analysis of Alternative Equity Portfolio Diversification Strategies", co-authored with Lionel Martellini, one of his dissertation advisors and Vincent Milhau, Deputy Research Director at EDHEC-Risk Institute.

Also co-authored with Lionel Martellini and Vincent Milhau, are the articles entitled "Hedging Inflation-Linked Liabilities without Inflation-Linked Instruments through Long/Short Investments in Nominal Bonds" in *The Journal of Fixed Income* Winter 2015 and "Towards Conditional Risk Parity – Improving Risk Budgeting Techniques in Changing Economic Environments", forthcoming in the *Journal of Alternative Investments*.

• Michele Sisto, PhD (2014) has joined EDHEC Business School as of 1 July as Associate Professor in the Management Department and as Global MBA Director. Her teaching will focus on statistics, data analysis and programming in the MBA and M1 programmes – essentially using financial data and examples. She will manage the Global MBA programme and will continue her research work.

• Yifan Yang, PhD (2014), his paper "Bilateral Counterparty Risk Valuation Adjustment with Wrong Way Risk on Collateralized Commodity Counterparty", co-authored with Frank Fabozzi and Michele Leonardo Bianchi is forthcoming in *The Journal of Financial Engineering*.

EDHEC Business School news

At the end of March 2015, after a special audit procedure reserved for the best world-class schools, our EQUIS accreditation has been re-confirmed for the third time and for another full five years.

The EFMD Quality Improvement System (EQUIS) is the leading international system of quality assessment, improvement and accreditation of higher education institutions in management and business administration. Its fundamental objective, linked to the mission of EFMD, is to raise the standard of management education worldwide. EQUIS is not primarily focused on the MBA or any other specific Programme. Its scope covers all Programmes offered by an institution from the first degree up to the Ph.D, including non-degree Programmes. EQUIS has established its prestige and recognition worldwide and has accredited over 145 institutions in 40 countries since its launch in 1997.

The EQUIS Awarding Body is composed of representatives of high profile organisations that are stakeholders in the quality improvement of management education. It evaluates the Peer Review Reports on schools that are applying for EQUIS accreditation and, based on their recommendations, makes the final decision to confer EQUIS accreditation upon those management education institutions that have demonstrated excellence at an international level.

Back in 1999, EDHEC was one of the pioneering schools that chose to go through the first series of international accreditations (AACSB, EQUIS, Association of MBAs) for the academic excellence and professional relevance of its Programmes, its strong links with the business community, its international orientation, and its commitment to an ongoing process of quality improvement.

EDHEC Business School has been offering management training and development Programmes since 1906. One of the leading business schools in Europe, it delivers degree courses to over 6,200 students and trains over 10,000 professionals yearly through executive courses and research events.

EDHEC-Risk Institute news

"Academia meets Practice"

EDHEC-Risk Institute and Princeton University presented latest academic research results at the Institutional Money Management Conference in New York on 23 April 2015 and successfully attracted more than 150 finance professionals.

It was the third time that our institutions had joined forces to present their academic research results in finance and the usefulness of their conclusions for the industry to professionals. This event was intended to provide a selected number of investment professionals with the latest academic insights into institutional money management.

Themes such as factor investing, synthetic diversification, predictability of bond and stock returns, asset pricing and liquidity risk were addressed during the conference.

Keynote speakers from both Princeton University and EDHEC-Risk Institute took part in this event, among whom included: **Jianqing Fan**, Frederick L. Moore '18 Professor of Finance, Professor of Statistics, and Chairman of the Department of Operations Research and Financial Engineering (ORFE), Princeton University; **René Garcia**, Professor of Finance, PhD in Finance Programme Director, and Dean of Graduate Studies, EDHEC Business School; **Valentin Haddad**, Assistant Professor of Economics, Department of Economics, Princeton University; **Lionel Martellini**, Professor of Finance, EDHEC Business School and Scientific Director, EDHEC-Risk Institute; **John Mulvey**, Professor of Operations Research and Financial Engineering, ORFE Department, Princeton University; and **Raman Uppal**, Professor of Finance, EDHEC Business School.

Save the Date!

The next edition of EDHEC-Risk Days will take place on 15-16 March 2016 at The Brewery in London.

The event will run over two days and will include multiple plenary and stream sessions allowing professionals to review major industry challenges, explore state-of-the-art investment techniques and

benchmark practices to research advances. Sponsor workshops will complete the Programme.

On day one The Passive Investment 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 day two, 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 Infrastructure Forum presenting the latest research results on infrastructure investing from the EDHEC Infrastructure Investment Institute.

Registrations will open in November 2015.

IRONMAN France

We were impressed spectators and supporters of Lionel Martellini, Scientific Director, EDHEC-Risk Institute and PhD in Finance faculty member, who participated in the mythical triathlon in Nice on 28 June.

Athletes began with a beach start and embarked on a two-loop, 2.4-mile swim in the pristine waters of the Mediterranean Sea. The 112-mile bike course was the jewel of IRONMAN France as it followed much of the original Nice Triathlon route and passed through villages and mountains. There were 6,000 feet of challenging climbs, but athletes enjoyed beautiful panoramic views. The 26.2-mile run included a flat and fast four-loop course along the Promenade des Anglais. Warmest congratulations to him!

A selection of recent EDHEC-Risk Institute Publications

- **Robust Risk Estimation and Hedging: A Reverse Stress Testing Approach,**

Yaacov Kopeliovich*, Arcady Novosyolov, Daniel Satchkov, Barry Schachter

Traditional risk modelling using value at risk (VaR) is widely viewed as ill-equipped for dealing with tail risks. As a result, scenario-based portfolio stress testing is increasingly being promoted as central to the risk management process. "Reverse stress testing", a recent innovation in portfolio stress testing endorsed by regulators, is intended to identify economic scenarios that will threaten a financial firm's viability without injecting the manager's cognitive biases into stress scenario specification. Although the idea is intuitively appealing, no template has been provided to operationalise the idea. Some first steps in developing reverse stress testing approaches have begun to appear in the literature.

Complexity and computational intensity appear to be important issues. A more subtle issue appearing in this emerging research is the relationship among the concepts of likelihood, plausibility, and representativeness. In this article, the authors propose a novel method for reverse stress testing using principal components analysis (PCA) along with Gram–Schmidt orthogonalisation to determine scenarios leading to a specified loss level. The approach is computationally efficient. The method includes the maximum likelihood scenario, maximises (a definition of) representativeness of the scenarios chosen, and measures the plausibility of each scenario. In addition, empirical results for sample portfolios show this method can provide new information beyond VaR and standard stress testing analyses.

This paper was published in the *Journal of Derivatives*, Summer 2015.

* Yaacov Kopeliovich is EDHEC PhD in Finance graduate (2014)

More...

• **Do Multiple Credit Ratings Signal Complexity? Evidence from the European Triple-A Structured Finance Securities,**

Frank J. Fabozzi, Mike E. Nawas, Dennis Vink

In much of the current research on market practices with respect to the use of credit ratings, the rating shopping hypothesis and the information production hypothesis feature prominently. Both of these hypotheses predict an inverse relationship between the number of ratings and a security's funding cost; that is, more ratings will reduce funding costs and, conversely, fewer ratings will increase funding costs. Our study finds precisely the opposite to have been the case for the mainstay of the structured finance securities market in Europe prior to 2007, namely the triple-A tranches of European residential mortgage-backed securities. Our findings suggest that structured finance markets may behave differently than what would be predicted by two hypotheses traditionally used to explain the number of ratings and funding costs: the rating shopping and information production hypotheses. Obtaining multiple credit ratings may be a signal for complexity, for which investors demand a risk premium.

More...

• **The Valuation of Privately-Held Infrastructure Equity Investments: Theoretical Framework and Data Collection Requirements,**

Frédéric Blanc-Brude, Majid Hasan*

This paper proposes a valuation framework for privately-held and very illiquid assets such as equity stakes in infrastructure projects.

Such a framework is one of the key steps identified by EDHEC-Risk Institute as part of a roadmap to design long-term infrastructure investment benchmarks that can take into account the nature of such assets as well as the paucity of available data.

Indeed, the design of an academically validated valuation framework, while necessary to ensure adequate performance measures, is constrained by the practical limitations of collecting private information that is scattered amongst many investors and is often confidential in nature.

The approach taken by the authors aims to balance the objective of using academically sound pricing models with that of requiring a parsimonious data input, thus making the necessary data collection process cost-efficient and realistic.

To address these issues, this paper develops a cash flow forecasting model and a pricing model that make use of powerful but simple Bayesian statistical principles, thus allowing the leveraging of available information as well as built-in learning, as and when new data become available.

This research also leads to the creation of a data collection template for infrastructure investors and their managers, which could be a useful starting point for a reporting standard of private infrastructure investment data and performance. With such a standard, industry-wide data collection can take place and the knowledge of the risk-adjusted performance of infrastructure equity investments can be improved to the point where asset allocation decisions and the calibration of prudential frameworks do not have to treat infrastructure investment as a known unknown anymore.

This research was produced as part of the «Infrastructure Equity Investment Management and Benchmarking» research chair at EDHEC-Risk Institute, in partnership with Meridiam and Campbell Lutyens.

* Majid Hasan is a residential track participant in the EDHEC PhD in finance Programme

More...

- **The EDHEC European ETF Survey 2014,**

Noël Amenc, Frédéric Ducoulombier, Felix Goltz, Véronique Le Sourd, Ashish Lodh, Eric Shirbini

EDHEC Risk Institute conducted its 8th survey of European investment professionals about the usage and perceptions of ETFs at the end of 2014. The aim of this study is to analyse the usage of exchange-traded funds (ETFs) in investment management and to give a detailed account of the current perceptions and practices of European investors in ETFs. Among the key findings of the 2014 survey, more than 80% of respondents think that smart beta indices allow factor risk premia, such as value and small cap, to be captured. This capturing of factor premia is a prime motivation for investment in smart beta ETFs for a vast majority of respondents.
More...

Important information for prospective applicants

Application Information

Executive track

The last deadline for application for September 2015 admission into the Programme is 15 July 2015.

EDHEC is seeking to matriculate ten to fifteen new participants in 2015.

Programme presentations

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

Sessions are upcoming in Toronto (17 July), Hong Kong (26 August), Singapore (31 August) and London (29 September). Phone interviews from North America on 20 July.

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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