The O'Kane Credit Risk Seminar

Pricing and Risk-Managing Credit Derivatives

London, May 15-16 – The Dorchester

Mechanics and risk analysis of credit default swaps

Valuation of CDS and CDS survival curve calibration

Managing the market, credit, and counterparty risks of CDS

Pricing and hedging default swap options

Benefits and challenges of constant maturity default swaps

Valuation and risk management of CDS indices and index options

Extension of CDS indices to sub-prime and asset-backed securities

Pricing and hedging synthetic CDOs and bespoke tranches

Assessing and implementing advanced correlation smile models

The new generation of dynamic credit derivatives

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EDHEC Asset Management Education

Fuelled by new products, innovative applications, and the many advantages they have over traditional credit assets, credit derivatives have grown to a $45 trillion market and have utterly revolutionised credit markets. Credit derivatives have provided new ways for investors to assume credit risk and new tools to protect portfolios from credit events and spread risk. Presenting risk profiles which differ greatly from traditional credit assets, credit derivatives represent new opportunities for investment and risk management, but also impose significant valuation and hedging challenges on their users.

Designed and delivered by an expert in the theory and practice of credit risk modelling, this intensive seminar equips participants with a thorough appreciation of credit derivatives and their uses, and imparts the practical knowledge required to implement state-of-the-art pricing and risk management models for these products.

The seminar reviews credit risk modelling, explores the mechanics, valuation and risk management of asset swaps, CDS, CMDS, and CDS indices. It also covers options on CDS and CDS indices. A major focus of the seminar is the pricing and hedging of synthetic CDOs and bespoke tranches. It concludes with an analysis of dynamic credit derivatives including credit CPPI and the CPDO. The seminar also discusses the extension of the credit derivatives market to the area of asset-backed credit risk, including sub-prime.

Stressing high-level understanding, including numerous worked examples, and addressing technical issues, the seminar draws upon the instructor's considerable market experience and research expertise and provides unparalleled practical insights into the effectiveness and efficiency of alternative methods and models for pricing and hedging single- and multi-name credit derivatives.

As such, the O'KANE Credit Risk Seminar should appeal to all professionals in search of a thorough understanding of the workings, valuation, and risk management of credit derivatives, whether their organisations view these markets from the vantage point of traders, hedgers, or long-term investors.

Who Should Attend

The programme is intended for investment professionals who need to understand the mechanics and risk characteristics of credit derivatives as well as related pricing and risk management models. It should be of particular interest to practitioners responsible for investment policy, investment analysis, asset structuring, trading, risk control, and portfolio-wide risk management.

Functions

- CROs and risk management/control officers
- Heads of research and quantitative analysts
- CIOs, portfolio managers and senior investment officers
- Traders and asset structurers
- Credit portfolio managers

Institutions

- Hedge funds
- Investment banks
- Commercial banks
- Credit institutions
- Asset management companies
- Pension funds, insurance companies, and other institutional investors
- Consultancies and software vendors

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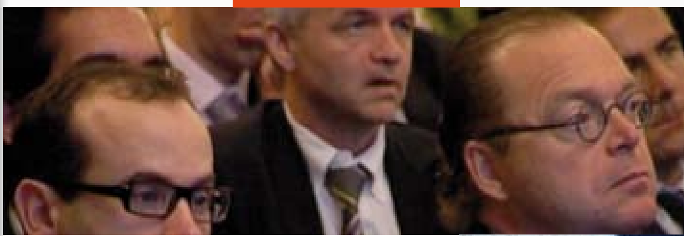

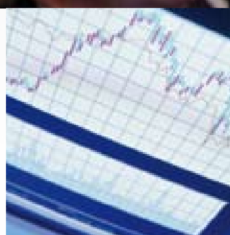

Day 1

The first day of the seminar introduces credit risk and single-name credit derivatives modelling, reviews the asset swap, and thoroughly explores the workings, risk analysis, pricing, and hedging of the credit default swap, reflecting its importance as the building block of the other credit derivatives. Options on CDS and constant maturity default swaps are also examined. The day closes with an examination of CDS indices, the multi-name credit derivatives which have dramatically reshaped the credit markets, and discusses their extension to sub-prime and asset-backed securities.

The first day of the seminar addresses such issues as:

- Who uses which credit derivatives and why?
- What are the interest rate and default risks of an asset swap?
- How exactly do credit default swaps work?
- What models should be used to price default swaps? How to calibrate them?
- How to hedge the credit and interest rate risks of CDS positions
- How to model the counterparty risk of a CDS
- How do options on credit default swaps work?
- What is the risk profile of a constant maturity default swap and how to hedge it?
- How does a CDS index work?
- What is the relationship between the value of a CDS index and that of the underlying CDS?

▶▶ Introduction (90 minutes)

- An overview of the credit derivatives market
- Empirical analysis of credit risk
- Structural models for credit risk
- A reduced form modelling framework for single-name credit derivatives

▶▶ The asset swap (30 minutes)

- The mechanics and pricing of the asset swap
- Market risk and default risk of an asset swap
- Mitigating the counterparty risk

▶▶ The credit default swap (180 minutes)

- The credit default swap (CDS) contract
- The pricing link between default swaps and bonds
- Unwinding and valuation of a default swap contract
- Calibration of the survival curve
- Market risk a default swap contract
- The counterparty risk of a default swap contract
- Pricing and risk-managing forward starting default swaps
- Extension of CDS to cover loans and asset-backed securities

▶▶ Options on default swaps (30 minutes)

- The mechanics of options on default swaps
- Uses of a default swap option
- Pricing and hedging a default swap option

▶▶ Constant maturity default swap (30 minutes)

- Mechanics of the constant maturity default swap (CMDS)
- Uses of a CMDS
- The risk sensitivities of a CMDS
- The challenge of pricing a CMDS
- Risk management of a CMDS

▶▶ CDS indices (60 minutes)

- The mechanics of CDS indices such as CDX and iTraxx
- Valuation and risk-management of CDS indices
- Reconciling the value of the index with the value of the underlying CDS
- Extension of CDS indices to sub-prime and asset-backed securities

Day 2

The second day of the seminar reviews options on CDS indices and then delves into correlation products with specific emphasis on the mechanics, pricing and hedging of synthetic collateralised debt obligations and bespoke tranches. The seminar introduces the classic Gaussian copula pricing framework, sheds light on the correlation smile, and then extensively surveys the competing approaches to integrating the correlation smile, among them base correlation, copula-based skew models, and dynamic correlation models. The day concludes with a discussion of advanced multi-name products with emphasis on credit constant proportion debt obligations.

The second day of the seminar addresses such issues as:

- How to price options on CDS indices
- When to exercise an option on a CDS index
- How to price and risk-manage synthetic CDOs
- Why is there a correlation skew?
- When to use base correlation and when to avoid it
- How to use base correlation to price bespoke tranches
- Can arbitrage arguments impose model bounds on the prices of synthetic CDOs?
- Which copula models fit the correlation skew best?
- When to use a dynamic correlation model
- What is the market risk of a CPDO?

▸▸ Options on CDS indices (60 minutes)
- Mechanics and pricing of options on CDS indices
- Extending Black's model to pricing options on CDS indices
- The risk-management of CDS index options

▸▸ Correlation products (120 minutes)
- Default baskets
- The mechanics of synthetic CDOs
- The Gaussian copula model
- Valuation of a synthetic CDO
- Risk management of a synthetic CDO

▸▸ Modelling the risk of default dependency (30 minutes)
- Copulas as a mathematical tool for dependency modelling
- Rank correlation as a pure measure of dependency
- Tail dependency as a measure of joint extremal events

▸▸ Correlation products and the skew (180 minutes)
- The correlation smile or skew
- Modelling the correlation skew using base correlation
- No-arbitrage conditions for a correlation skew model
- Pricing bespoke tranches using base correlation – mapping approaches
- Copula models for capturing the correlation skew
- Dynamic correlation models – top down versus bottom up

▸▸ Dynamic credit derivatives (30 minutes)
- The mechanics of credit CPDOs
- Market risk of credit CPDOs

Seminar Leader

Dominic O'Kane is affiliated Professor of Finance at EDHEC Business School.

Before joining EDHEC, Dr. O'Kane spent ten years with Lehman Brothers in London, where he was a Managing Director and ran the European Fixed Income Quantitative Research group. This group of quantitative analysts was responsible for the pricing and risk models used across the investment bank's credit, interest rate, currency, and commodity derivative businesses. Previously, Dr. O'Kane spent two years at Salomon Brothers.

For most of his time at Lehman Brothers, Dr. O'Kane worked for the credit derivatives trading desk where he developed models for pricing and risk-managing a broad range of credit derivatives. He was also involved in advising clients on credit modelling issues and wrote papers on subjects such as default swaps, pricing CDS, and understanding base correlation. In 2005 he and his team were voted number one for Quantitative Credit Research and Modelling in an investor poll conducted by Euromoney.

At EDHEC Business School, Dr. O'Kane teaches the Advanced Credit Modelling module in the MSc in Risk and Asset Management programme and contributes to the work of the EDHEC Risk and Asset Management Research Centre. His research has been published in *Finance and Stochastics*, *Risk Magazine*, and by Lehman Brothers.

Dr. O'Kane has contributed to *The Handbook of Fixed Income Securities* (McGraw-Hill Professional) and to *Professional Perspectives on Fixed Income Portfolio Management* (Wiley Finance). He is the author of the forthcoming *Modelling Single-Name and Multi-Name Credit Derivatives* (Wiley Finance). Dominic O'Kane has frequently lectured at industry conferences and taught many executive courses.

Dr. O'Kane holds a PhD in theoretical physics from the University of Oxford and a first class degree in physics from Imperial College London, where he also worked as a postdoctoral research fellow in the mathematics department.

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Attendance Fees
Two-day course: €3,500 + VAT where applicable.
Fees include documentation, refreshments, lunch, and drinks.

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With over 110 permanent professors and researchers and some 4,700 students spread over three campuses in Lille, Nice and Paris, the EDHEC Group is the largest provider of business education in France and one of the leading business schools in Europe. EDHEC Business School has been offering management training and development programmes since 1906 and is a member of the select group of academic institutions worldwide to have earned the triple crown of international accreditations (AACSB, EQUIS, AMBA).

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Accredited by Association of MBAs

EDHEC Business School set up the Risk and Asset Management Research Centre to conduct world-class academic research and highlight its applications to the industry. The centre's team of 35 researchers carries out six industry-sponsored programmes focusing on asset allocation and risk management in the traditional and alternative investment universes. In keeping with its mission, the centre systematically seeks to validate the academic quality of its research through publications in leading scholarly journals, implements a multifaceted communications policy to inform investors and asset managers on state-of-the-art concepts and techniques, and develops business partnerships to launch innovative products.

To optimise exchanges between the academic and business worlds, the Risk and Asset Management Research Centre maintains a website devoted to asset management research for the industry: www.edhec-risk.com, circulates a monthly newsletter to over 145,000 practitioners, conducts regular industry surveys and consultations, and organises annual conferences for the benefit of institutional investors and asset managers.

EDHEC has also created a consultancy, EDHEC Investment Research, and an executive education arm, EDHEC Asset Management Education. EDHEC Asset Management Education helps investment professionals to upgrade their skills with advanced risk and asset management training across traditional and alternative classes.

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