



Credit Derivatives: Master Class

Jon Gregory, John Hull & Philipp Schönbucher

New York City: 23rd / 24th / 25th April 2007

Register to ANY ONE day TWO days or all THREE days

Register to ANY TWO days and receive \$200 discount

Register to ALL THREE days and receive \$300 discount

Day 1: Monday 23rd April

Modelling Credit Derivative Products

**John Hull: Professor of Derivatives & Risk Management,
Rotman School of Management, University of Toronto**

John Hull is the Maple Financial Group Professor of Derivatives and Risk Management in the Joseph L. Rotman School of Management at the University of Toronto. He is an internationally recognized authority on derivatives and has many publications in that area. Recently his research has been concerned with credit risk, executive stock options, volatility surfaces, market risk, and interest rate derivatives. He was, with Alan White, one of the winners of the Nikko-LOR research competition for his work on the Hull- White interest rate model. He has acted as consultant to many North American, Japanese, and European financial institutions.

He has written three books "Risk Management and Financial Institutions" (new this year), "Options, Futures, and Other Derivatives" (now in its sixth edition) and "Fundamentals of Futures and Options Markets" (now in its fifth edition). He has won many teaching awards, including University of Toronto's prestigious Northrop Frye award, and was voted Financial Engineer of the Year in 1999 by the International Association of Financial Engineers.

In addition to the University of Toronto, Dr. Hull has taught at York University, University of British Columbia, New York University, Cranfield University, and London Business School. Earlier in his career he worked as a corporate planning analyst with British Shoe Corporation. He is an Associate Editor of eight academic journals.

Outline:

9:00 – 10:30 Default Probabilities and Credit Default Swaps

- Differences between estimates from historical data and estimates from bond prices or CDS spreads
- Reasons for the differences
- Real world vs risk neutral analysis
- Valuation of CDS

10:30 – 10:45 Morning Break

10:45 – 12:30 CDOs: The Standard Market Model

- The CDO market
- The Gaussian copula model
- Implementation of model
- Implied correlation
- Other copula models

12:30 – 13:30 Lunch

13:30 – 15:30 The Implied Copula Approach

- How to implement the simplest version of the approach; typical results
- The impact of the GM and Ford downgrades
- Obtaining pricing bounds
- Non-standard attachment points
- Non-standard number of names
- Non-standard maturities

15:30 – 15:45 Afternoon Break

15:45 – 17:00 The Implied Copula Approach Continued

- Non-homogeneous version of implied copula model
- Matching the term structure of credit spreads
- Handling bespoke portfolios
- Results for CDO squareds

Day 2: Tuesday 24th April

Pricing Issues in Structured Credit

**Jon Gregory: Global Head of Credit Derivatives Research,
Barclays Capital**

Jon Gregory works on the Global Credit Derivatives desk at Barclays Capital, previous to this he was global head of the research team for credit trading and derivatives at BNP Paribas. His main interest lies in reconciling theoretical and practical approaches for pricing, hedging and managing credit risk.

He worked in the Fixed Income division of Salomon Brothers (now part of Citigroup) prior to joining Paribas in 1997.

In addition to publishing papers on the pricing of credit risk and related topics, he is co-author of the best selling book "Credit: The Complete Guide to Pricing, Hedging and Risk Management", short-listed for the Kulp-Wright Book Award for the most significant text in the field of risk management and insurance. Jon gained a BSc from the University of Bristol in 1993 and was awarded his PhD from Cambridge University in 1996.

Outline:

09:00 – 10:30 / Modelling Credit Correlation

- **Default correlation**
- **The Gaussian copula model**
- **Alternative copula approaches**
- **Pricing of synthetic CDO tranches**
- **Implementing copula models, analytical and Monte Carlo pricing**

10:30 – 10:45 Break

10:45 – 12:30 / The Correlation Skew

- **Base correlation**
- **Skew in the strike dimension**
- **Skew in the maturity dimension**
- **Pricing bespoke portfolios**
- **Skew models**

12:30 – 13:30 Lunch

13:30 – 15:00 / Other Leveraged Credit Products

- **CPPI structures**
- **CPDO**
- **Leveraged super senior tranches**
- **Models for gap risk**

15:00 – 15:15 Afternoon Break

15:15 – 17:00 / Advanced Models and Exotic CDOs

- **Barbell and long/short portfolios**
- **Forward starting CDOs and tranche options**
- **Loss surface approaches**
- **The implied copula approach**
- **Dynamic models**

Day 3: Wednesday 25th April

Pricing Models for Credit Hybrid Securities

Philipp Schönbucher, Assistant Professor, Risk Management, (ETH) Zurich

Philipp J. Schönbucher is assistant professor of Quantitative Risk Management at the Department of Mathematics of the Swiss Federal Institute of Technology (ETH) Zurich. He holds degrees in mathematics (Oxford) and economics (Bonn) and a PhD in economics (Bonn). His publications include papers on credit risk modelling, credit derivatives pricing, stochastic volatility modelling, option pricing in illiquid markets, real options and term structure models.

His main area of research is credit risk modelling and credit derivatives pricing in which he has been active since 1996. Philipp is a consultant and professional trainer to a number of leading financial institutions. Furthermore he is author of a book on “Credit Derivatives Pricing Models” (Wiley, 2003).

Outline:

9:00 – 10:30 General Considerations

Requirements for hybrid modelling

- **Credit risk component**
- **Hybrid risk factor component**
- **Dependency between credit risk and hybrid risk**
- **Hedging methodology and strategies**

Credit Risk Components: Single-name models

- **Firm's value models**
- **Intensity-based models**

Portfolio credit risk models:

- **Copula models: How to incorporate external risk factors into a default-time model**
- **Multivariate intensity models: The modelling approach**

10:30 – 10:45 Morning Break

10:45 – 12:30 The Loss Market Modelling Approach

The loss market modelling approach

- **Calibration to the correlation smile**
- **Equipping the loss distribution with arbitrage-free dynamics**
- **Parametrisation of the dynamics: Stochastic spreads**

How this approach can simplify the modelling requirements

Places to incorporate external risk factors

- **Adding interest-rate dynamics**
- **Adding other risk factors**

Numerical implementation

12:30 – 13:30 Lunch

Day 3: Wednesday 25th April

Pricing Models for Credit Hybrid Securities

Philipp Schönbucher, Assistant Professor, Risk Management, (ETH) Zurich

13:30 – 15:30 Credit Equity Hybrids

Barrier-default firm's value models:

- their structure, their strengths, their weaknesses
- modifications and extensions of this modelling approach

Simple credit-equity models with a “jump-to-default”

Portfolio credit-equity models

15:30 – 15:45 Afternoon Break

15:45 – 17:00 Other Credit Hybrids

Credit interest-rate hybrids

- Calibration problems with stochastic interest-rates

Credit FX hybrids

- Pricing quantoed credit protection
- Case study: Currency risk in

Credit Commodity hybrids

- Incorporating sovereign event risks

How to parametrize these risk factors



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Workshop Fees:

- Any One day: \$1399.00
- Any Two days: \$2598
(Including \$200 Discount)
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