



The 2nd Fixed Income Conference

Marriott Hotel, Prague, Czech Republic

Czech Republic
14th / 15th / 16th September 2005

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Due to the huge success of the Inaugural Fixed Income Conference Prague with 130 delegates, WBS Training are pleased to announce that we will be back in Prague in 2005. The 3 streamed format will be retained with Credit Derivatives, Interest Rate Modelling and a new Hybrid products stream. .

Conference presenter List

Claudio Albanese:

Chair of Mathematical Finance, Imperial College London

Jesper Andreasen:

Nordea Markets

Philippe Balland:

Managing Director Fixed Income, Merrill Lynch

Jörg Behrens:

Partner, Ernst & Young

Damiano Brigo:

Head of Credit Models, Banca IMI

Dariusz Gatarek:

Glencore

Paul Glasserman:

Professor of Risk Management, Columbia Graduate School of Business

Jon Gregory:

Global Head of Quantitative Credit Derivatives Research, BNP Paribas

Lane P Hughston:

Professor of Financial Mathematics, King's College London

John Hull:

Professor of Finance, University of Toronto

Chris Hunter:

Hybrids Trader, BNP Paribas

Peter Jaeckel:

Global Head of Credit, Hybrid, and Commodity Derivatives, ABN Amro

Robert Maksymiuk:

Senior Financial Engineer, Ernst & Young

Richard Martin:

Head of Quantitative Credit Strategy, CSFB

Fabio Mercurio:

Head of Financial Models, Banca IMI

Vladimir Piterbarg:

Head of Fixed Income Quantitative Research, Barclays Capital

Riccardo Rebonato:

Head of Group Quants research centre, RBOS

Philipp Schonbucher:

Assistant Professor of Risk Management, ETH Zurich

David Shelton:

Director, Global Credit Derivatives Research, Citigroup

Jakob Sidenius:

Bank of America

Domingo Tavella

Advisor, Hypovereinsbank

Oldrich Vasicek:

Founding Principal of KMV

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Quality In Everything We Do

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Wednesday 14th September
Pre-Conference Workshop Day

John Hull: Credit Derivatives workshop

Jesper Andreasen & Vladimir Piterbarg: Interest Rate Modelling workshop

Workshop fee £799:00 = (+UK VAT 17.5%) No Discount.

Credit Derivatives workshop with John Hull
RECENT DEVELOPMENTS IN THE VALUATION OF
CREDIT DERIVATIVES

John Hull is well known for his applied research and his clear presentational style. His popular book "Options, Futures, and Other Derivatives," is now in its fifth edition.

Topics Covered:

- Background
- Modelling Default Correlation
- kth to Default CDSs and CDOs
- Other Topics

Background

- Credit default swaps
- Variations of the standard deal
- Valuation and recovery rate assumptions
- Alternative approaches to estimating default probabilities
- Risk-neutral vs real-world probabilities

Modelling Default Correlation

- Alternative ways of measuring default correlation
- Relationship between correlation measures
- Survival time distributions
- The use of copulas
- Extensions of the Gaussian copula
- Use of a structural model

kth to Default CDSs and CDOs

- Valuing 1st, 2nd,....., Nth to default deals
- Implementing copula models
- Determining the probability distribution of the kth to default
- Valuing CDO tranches
- Market quotes for CDO tranches

Other Topics

- Option structures
- Estimating risk-neutral credit rating transitions to value rating-dependent derivatives
- Using option volatilities to imply default probabilities

Workshop fee £799:00 + UK VAT

Interest Rate Modelling workshop with Jesper Andreasen & Vladimir Piterbarg

Interest Rate Modeling: From yield curve construction to hybrids

Interest Rate Modeling: From yield curve construction to hybrids

Jesper Andreasen heads the Product Development Team at Nordea Markets in Copenhagen. In 2001 Jesper received Risk Magazine's Quant of the Year award. Jesper holds a PhD in Mathematical Finance from Aarhus University, Denmark.

Vladimir Piterbarg is Head of Fixed Income Quantitative Research at Barclays Capital. Prior to this he was Managing Director and Co-Head of Quantitative Research for Bank of America. He worked at Bank of America for 6 years, concentrating on modelling for exotic interest rate and hybrid derivatives. Vladimir Piterbarg holds a Ph.D. in Mathematics (Stochastic Calculus) from University of Southern California.

Topics Covered:

- Basic Models
- European Interest Rate Options
- Markov yield curve models
- Stochastic Volatility
- Interest Rate Hybrids
- IT implementation

Interest Rate Modeling: From yield curve construction to hybrids

Workshop Outline:

9:00 - 10:30: The Basics

- The basics: the yield curve and its construction
- Short rate models of the yield curve
- HJM and LMM models

10:30 - 10:45 Morning Break

10:45 - 12:30

- Pricing Bermuda options by Monte-Carlo
- Stochastic volatility models for European interest rate options
- Markov yield curve models for exotic interest rate products
- Stochastic volatility in HJM and LMM models

12:30 - 13:30 Lunch

13:30 - 17:00 Interest Rate Hybrids

- Equity
- FX
- Inflation
- Credit

15:30 - 15:45 Afternoon Break

- Risk report generation
- IT implementation

Workshop fee £799:00 + UK VAT

Thursday 15th September
Day 1: Credit Derivatives Stream
08:15 - 08:45: Registration

Chairman's Opening Comments: 08:45 - 9:30

Dariusz Gatarek: Interest-Rate Derivatives

Chris Hunter: Hybrid Derivatives

John Hull: Credit Derivatives

The Distribution of Portfolio Value
Oldrich Vasicek: 09:40 - 11:10

Under some assumptions, the distribution of the losses on a loan portfolio converges with increasing portfolio size to a limiting distribution, whose form is explicitly given. This limiting distribution also applies to the changes in the portfolio value due to credit migration. The risk neutral probability distribution of the portfolio value, needed for pricing portfolio derivatives, is provided.

Morning Coffee: 11:10 - 11:50

Some Recent Developments in CDO Pricing, CDO-Squared Pricing & Bespoke / Non-Standard CDOs
David Shelton: 11:50 - 13:10

- New Market Developments
- CDO Pricing In Terms of the Portfolio Loss Distribution
- CDO-Squared Pricing in terms of the Joint Portfolio Loss Distribution
- Relationship between Correlation and Volatility Markets
- Bespoke / Non-Standard CDOs
- Applying the skew across bespoke portfolios

Lunch Break: 13:10 - 14:30

CDO Modelling: Theory and Practice
Jon Gregory: 14:30 - 15:50

- The Copula Ice Cream Factory
- The Market Copula vs Base Correlation
- Bespoke portfolios and CDO²
- Risk Management of Correlation Positions : Model vs Market
- Where next : How to move our modelling forward

Afternoon Coffee: 15:50 - 16:30

Credit Derivatives Panel: CDOs: What and Where Next?
Moderator: Philipp Schonbucher, ETH Zurich
16:30 - 17:45. End of day 1

Panel:

John Hull: Professor of Finance, University of Toronto

The strengths and weaknesses of the Gaussian copula model

Jon Gregory: Global Head of Credit Derivatives Research, BNP Paribas

"Sophisticated models or sophisticated analysis of simple models?"

Richard Martin: Director, Portfolio Strategy Group CSFB

Evolution of CDO correlation models

David Shelton: Director, Global Credit Derivatives Research, Citigroup

What is the relationship between volatility and correlation markets?

Gala Dinner: 20:00

Friday 16th September
Day 2: Credit Derivatives Stream

The uncertain volatility/default barrier first passage time model & its calibration to credit default swaps data
Damiano Brigo: 09:00 - 10:30

- A structural model with the calibration capability of reduced form/credit spread models
- Modeling uncertainty or possible hidden information in balance sheets
- A calibration case study and different possible parameter choices
- A natural extension to multi-name situations via equity correlation
- Natural use for counterparty risk pricing in equity payoffs
- Possible use for Hybrid products

Morning Coffee: 10:30 - 11:10

New Approaches to Valuing CDOs
John Hull: 11:10 - 12:30

- The assumptions underlying factor-based copula models
- The hazard rate path approach: a generalization of the copula approach
- Fitting the correlation smile exactly
- A structural model alternative
- Fits to 5- and 10-year data

Lunch Break: 12:30 - 13:50

Monte Carlo for Credit Risk and Credit Derivatives
Paul Glasserman: 13:50 - 15:10

- Combining Monte Carlo with numerical methods to measure portfolio credit risk
- Importance sampling for simulating rare large-loss events
- Measuring marginal risk contributions
- Fast pricing of basket default swaps
- Accelerating Monte Carlo by increasing default rates

Afternoon Coffee: 15:10 - 15:40

Structural and Reduced form Models: A unified approach
Richard Martin: 15:40 - 17:00

- Reduced form models
- Cash Trading
- Derivatives Trading
- Structural models and capital structure arbitrage

End of Conference

Thursday 15th September
Day 1: Hybrid Derivatives Stream
08:15 - 08:45: Registration

Chairman's Opening Comments: 08:45 - 9:30

Dariusz Gatarek: Interest-Rate Derivatives

Chris Hunter: Hybrid Derivatives

John Hull: Credit Derivatives

Pricing Inflation-Indexed Derivatives with Stochastic Volatility
Fabio Mercurio: 09:40 - 11:10

- The CPI index and definition of inflation
- Inflation-indexed swaps: zero coupon and year on year
- Inflation-indexed caps and floors
- Pricing with a market model
- Calibration to swaps and zero-strike floors: an empirical example
- Adding stochastic volatility as in Heston (1993)
- Analytical formulas for caplets
- Calibration to a surface of caps prices: an empirical example

Morning Coffee: 11:10 - 11:50

Efficient calibration for interest rate/FX hybrid models with FX volatility smiles: Vladimir Piterbarg: 11:50 - 13:10

- A model for power-reverse dual-currency (PRDC) swaps with FX volatility smiles
- Application of skew averaging techniques to the problem of FX smile calibration
- Volatility smile effects on PRDCs

Lunch Break: 13:10 - 14:30

Markov-functional-based pricing of path-dependent multi-underlying hybrid derivatives: Peter Jaeckel: 14:30 - 15:50

- Matching all plain-vanilla options on all underlyings by the aid of a quantile map
- Common problems with various volatility parametrisations
- Approximate measure transformations
- No-arbitrage considerations
- Allowing for mean-reversion in selected underlyings as required

Afternoon Coffee: 15:50 - 16:30

Hybrid Panel: How to successfully handle Hybrid Derivatives? Moderator: Peter Jaeckel 16:30 - 17:45. End of day 1

Panel:

Chris Hunter: BNP Paribas, Hybrid Trader

Are market models or short-rate models better for pricing hybrids?

Vladimir Piterbarg: Head of Fixed Income Quantitative Research, Barclays Capital

Is CMS spread volatility sold too cheaply?

Damiano Brigo: Head of Credit Models, Banca IMI

Hybrid Credit/Equity products and Counterparty Risk pricing: Enriching Structural Models Calibration to CDS

Jakob Sidenius: Bank of America

What should be modeled as dependent on external risks: default events or spreads?

Gala Dinner: 20:00

Friday 16th September Day 2: Hybrid Derivatives Stream

PDE framework for pricing instruments under sequential credit events

Domingo Tavela: 09:00 - 10:30

- Upon a credit event (default, downgrade, or upgrade), some instruments terminate into cash, while other instruments become a different instrument. An example of the former is a simple credit put that pays a known amount upon default, and an example of the latter is a bond that gets downgraded.
- Sequential credit events give rise to a system of Partial Differential Equations that describe the prices of the instruments involved. This system can be solved effectively and fast using the finite difference technique. The PDE system plus its solution constitute a PDE framework for dealing with the sequential credit event problem.
- We demonstrate the application of the PDE framework to number of case studies, such as EDS and CDS.

Morning Coffee: 10:30 - 11:10

Volatility and Correlation in Hybrid Pricing Chris Hunter: 11:10 - 12:30

- The Term Structure of Volatility
- Incorporating Smiles
- What is the correct Correlation?
- Example: A Callable Oil - FX Structure

Lunch Break: 12:30 - 13:50

Equity / Credit Hybrids:

- How to price equity in barrier default models
- The term structure of credit spreads in barrier-default models
- Solving the short-term spread problem by modelling the information flow
- Example: Duffie and Lando with delayed observation
- Solving the short-term spread problem by introducing jumps
- Example: Levy-driven models: Properties and problems
- Re-interpreting the Variance-Gamma model to avoid numerical complications
- Default correlation: Barrier defaults in factor models.

Interest-Rate / Credit-Portfolio Hybrids:

- Single-name interest-rate / credit hybrid instruments
- Forward transition rate models for portfolio credit instruments
- Introducing interest-rate risk and no-arbitrage restrictions on the transition rates
- Calibration to market data.

Afternoon Coffee: 15:10 - 15:40

Dynamics of portfolio losses
Jakob Sidenius: 15:40 - 17:00

- Some approaches to loss dynamics modeling
- Our approach: background dynamics + loss dynamics
- Mathematical setup
- Background calibration
- A generic loss process
- The link with interest rates
- Numerical issues
- Pricing in general
- Pricing examples

End of Conference

Thursday 15th September
Day 1: Interest-Rate Modelling Stream
08:15 - 08:45: Registration

Chairman's Opening Comments: 08:45 - 9:30

Dariusz Gatarek: Interest-Rate Derivatives

Chris Hunter: Hybrid Derivatives

John Hull: Credit Derivatives

Back to the Future: Stochastic Volatility HJM Models
Jesper Andreasen: 09:40 - 11:10

- True Stochastic Volatility and the HJM
- Markov representation and separable volatility
- Analytic approximations for cap and swaption pricing
- One and Multi factor models and calibration
- Numerical implementation and examples.

Morning Coffee: 11:10 - 11:50

**Why neither time - dependence nor time - homogeneity will do:
Evidence of the existence of regimes from implied volatility and
interest rate data**
Riccardo Rebonato: 11:50 - 13:10

- Fitting the whole swaption matrix with a parsimonious model of volatility
- Absolute or percentage?: Choosing the right co-ordinates, and why the wrong choice can make you draw the wrong conclusions
- How to do much better than Principal Component with Much Fewer Parameters: The Power of correct structural specification
- The Problems with Time Dependence
- The Problems with Time Homogeneity
- Bringing Evidence from Interest-Rate Drawdowns to Bear
- Putting All the Pieces Together: Evidence from Caplets, Swaptions and Rates

Lunch Break: 13:10 - 14:30

Approximations of the Libor market model
Dariusz Gatarek & Robert Maksymiuk: 14:30 - 15:50

- LIBOR rate lognormal approximations
- Linear and nonlinear pricing of swaptions
- Swap rate lognormal approximation
- Numerical example of European swaptions
- Brownian bridge drift approximation
- Comparison of pricing methods & potential extensions

Afternoon Coffee: 15:50 - 16:30

Interest Rate Panel:

Interest Rate Derivatives: What and Where Next?

Moderator: Riccardo Rebonato

16:30 - 17:45. End of day 1

Panel:

Jesper Andreasen: Head of Product development, Nordea Markets
Negative Interest Rates: How Far out in Space-Time

Dariusz Gatarek: Director of Quantitative Research, NumeriX LLC:
Two purposes of arbitrage-free models

Henrik Rasmussen: Oxford & Hibrium:
Numeraire modelling - the way to go

Oldrich Vasicek: Founding Principal of KMV:
The economics of interest rates

Gala Dinner: 20:00

Friday 16th September 2005

Day 2: Interest-Rate Modelling Stream

Axiomatic Interest Rate Theory

Lane P Hughston: 09:00 - 10:30

- Interest rate modelling: why take an axiomatic approach?
- Axiom one: the money market account
- Axiom two: arbitrage-free asset dynamics
- Axiom three: the floating rate note
- Axiom four: the discount bond system
- What is the difference between the "pricing kernel method" and so-called "risk-neutral valuation"?
- Relation to Baxter, Constantinides, Flesaker-Hughston, Heath-Jarrow-Morton, Hunt & Kennedy, Rogers, Rutkowski, etc.
- Applications: chaotic models
- Extensions to foreign exchange and inflation-linked structures

Morning Coffee: 10:30 - 11:10

Functional lattice models: from callable CMSs to CDO subordinated swaps

Claudio Albanese : 11:10 - 12:30

- Functional lattices
- A stochastic volatility model for callable constant maturity swaps
- Nearly stationary calibration
- High dimensional correlated lattices
- Lattice models for CDOs
- The cancelable swap basis
- CDO-tranche subordinated interest rate swaps and floors

Lunch Break: 12:30 - 13:50

Choosing between good and bad models: A practical view. Joerg Behrens, Partner Ernst & Young: 13:50 - 15:10

- What is a good model?
- A few words on model validation
- Lessons learned

Afternoon Coffee: 15:10 - 15:40

Factor Analysis for Interest Rate Models Philippe Balland: 15:40 - 17:00

- How many factor should we use and why two factor are usually not enough
- Quasi Analytical Calibration
- Pricing in Lattice using Gradient-Conditioning
- Application to CMS spread structures

End of Conference

