



The 3rd Discounting & Funding Conference:
Multi Curves, Collateral & CVA

London: 2nd & 3rd December 2013

Hear From Leading Industry Experts:

Cristin Buescu (King's College)
Christian Fries (DZ Bank)
Marc Henrard (OpenGamma)
Mats Kjaer (Barclays)

This Workshop Provides TWO Booking Options:

Register to ANY ONE day of the workshop
Register to BOTH days of the workshop and receive a £200 discount

Plus Early Bird Discounts: 20% before 27th September / 10% before Friday 25th October

DAY 1: MONDAY 2ND DECEMBER

Multi-Curve Framework: Foundations, Evolution and Implementation by Marc Henrard: Quantitative Research, OpenGamma

Course Summary:

Interest rate modelling has changed dramatically over the last five years due to the financial crisis. Most of the models used in academic literature and by practitioners have had to be reviewed with those changes in mind. The course describes the recent developments (2007-2013) of the multi-curve framework.

The multi-curve framework is a way to describe coherently a market where basis swaps, exchanging payments linked to different indices, require a spread. Not all the indices are equal, and each index requires its own curve. Nevertheless, the curves cannot be created indiscriminately if one wants to maintain an arbitrage-free approach.

The course details the foundations of this new approach. It has been adopted as the new standard by most financial institutions. We analyse the impact on the interaction between the curves, how market instrument liquidity and conventions force curves that are a lot more than simply a multiplication of single curves. A very generic curve calibration process, adapted to the multi-curve framework, is described. Examples, including the idiosyncrasies of several markets, are described.

Constructing multiple curves is only a small part of the game in practice. The real challenge is to use them to hedge portfolios, describe risks coherently and link them to complex interest rate models built originally in the single-curve framework. The foundations of those links and extensions are proposed, based on the most recent literature.

Another important impact of the crisis is the emphasis on collateralisation and its impact on derivative pricing. We devote the last part of the course to the extension of the multi-curve framework in presence of collateral. In particular the so-called "OIS discounting" pricing is analysed in detail, including its often hidden hypothesis.

Bullet Points:

- Introduction and historical framework
- Multi-curve framework foundations
- Curve calibration
- Spread modeling
- Collateral
- Options modeling

Day schedule: 09:00 – 17:30

Break: 10:30 – 10:45

Lunch: 12:30 – 13:30

Break: 15:15 – 15:30

DAY 2: TUESDAY 3RD DECEMBER

Multi Curves, Collateral, Funding & CVA

09:00 – 12:00

Discounting, Funding, Collateral and Multi-Curve Modeling from Theory to Practical Implementations and their Implications (with source code and hands-on demos)

by Christian Fries: Head of Model Development, DZ Bank

- Discounting, Funding and Collateral: Consistent Valuation and Hedging
- Multi-Curve Curve Calibration and Valuation (with Source Code)
- FVA and Fund Transfer Pricing
- Multi-Curve Term-Structure Models (with Source Code)

Source Code with Algorithms related to Multi-Curve Calibration, FVA, CVA like Curve Interpolation, Curve Calibration, LIBOR Market Model with Collateral Adjustment, American Monte-Carlo

Program:

Session 1: Foundations, Motivation, Curve Calibration

- Discounting, Funding and Collateralization
- The Role of Funding in Uncollateralized Derivatives
- Re-Definition of Forward and Discounting Curve (Multi-Curve Multi-Currency)
- Calibration and Interpolation of Forward and Discount Curves (Multi-Curve Theory)
 - With Source Code and Hands-On Examples

Session 2: Implication of Multi-Curve Modelling and Term Structure Models

- Implication of Multi-Curve Modelling
 - Economic Interpretation of Valuation Adjustments
 - Understanding Sensitivities and Risk
 - Collateralized and Uncollateralized Foreign Currency Products
- The Cross—Currency Analogy to Funding and Collateralization
- Endowing the Model with a Funding Curve and Collateral Curve (w/ Source Code)
- Valuation with Stochastic Funding
- FVA and Fund Transfer Pricing

Methods

- Presentation (slides)
- Illustration using computer examples (will be available after the course)

10:30 – 10:45

Break

12:00 – 12:45

Multi Curve Panel Discussion:

Panelists:

Christian Fries, Head Of Model Development, DZ Bank

Marc Henrard, Quantitative Research, OpenGamma

12:45 – 13:45

Lunch

13:45 – 15:15

Funding, Credit and Collateral: Beyond CVA, DVA, FVA and Inconsistent Additive Adjustments
by Cristin Buescu: Department of Mathematics, King's College

- Payoff uncertainty in CVA and DVA
- Margining and closeout funding costs
- Hedging strategies funding costs
- Recursive Master Equation
- $FVA=0?$ $FVA=DVA?$
- The illusory additive decomposition

15:15 – 15:30

Break

15:30 – 16:45

Generalised CVA with Funding and Collateral via Semi-Replication
by Mats Kjaer: Director, Quantitative Analytics, Barclays

- Semi-replication and the resulting PDE
- Perfect replication
- Model I: Partial replication with windfall at issuer default
- Model II: Partial replication with a single bond
- Numerical examples



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Conference Fee Structure

	Early Bird Discount: 20% Before 27th September	Early Bird Discount: 10% Before 25th October	Regular Event Fee
<input type="checkbox"/> Any One Day:	£879.20 + UK VAT	£989.10 + UK VAT	£1099.00 + UK VAT
<input type="checkbox"/> Both Days (£200 Discount):	£1598.40 + UK VAT	£1798.20 + UK VAT	£1998.00 + UK VAT
<input type="checkbox"/> Special Discount Code:	<input type="text"/>		

70% Academic Discount / FULL-TIME Students Only

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Signature:

To register, please fax the completed booking form to:

+44 (0)1273 201 360

Flight details:

All delegates flying into London on the morning of the event are reminded that they should arrive 30 minutes before the workshop starts for registration. The hotels West End location is approximately 1 hour from all 3 main London airports, Heathrow, Gatwick and City. Returning flights should equally allow for the events finishing time.

Sponsorship:

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Cancellation:

By completing of this form the client hereby enters into a agreement stating that if a cancellation is made by fax or writing within two weeks of the event date no refund shall be given. However in certain circumstances a credit note maybe issued for future events.

Prior to the two week deadline, cancellations are subject to a fee of 25% of the overall course cost.

Discount Structure:

The discount is available on any day permutation, and can be combined across delegates within the same company (only at the time of booking and not retrospectively).

Registration:

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