Modern Interest Rates with Collateral, Funding and Credit Risk
by Marco Bianchetti and Massimo Morini

Frankfurt: 19th & 20th November 2012

This workshop provides TWO booking options

Register to ANY ONE day of the workshop

Register to BOTH days of the workshop and receive €200 discount

Early Bird Discounts: 15% Before 7th September 2012 / 10% Before 5th October 2012
The Interest Rate Market Across the Credit Crunch

- Libor/Euribor/Eonia interest rates
- Interest rate market segmentation after the credit crunch
- Xibor and counterparty/liquidity risk
- Counterparty risk and collateral

Classical Interest Rate Market Practices & Models

- Short rate, Bank account, Zero coupon bond
- Pricing measures
- Discount/capitalization factors and Deposit contract
- Forward Xibor rate and FRA/Futures contract
- Forward Swap Rate, Swap and Basis Swap contract
- Overnight Indexed Swap (OIS) contact
- Cap&Floor/Swaption contract
- Classical, single curve, pricing & hedging interest rate derivatives

Modern Interest Rate Market Practices & Models: 1st Step

- The multiple-curve market approach
- Basic assumptions and notation
- "Ingenuous" pricing approach: FRAs, Swaps, Caps/Floors, Swaptions
- No arbitrage and forward basis
- Foreign-currency analogy approach

Modern Interest Rate Market Practices & Models: 2nd Step

- Restating the problem, basic assumptions and notation revisited
- Modern pricing of vanillas: FRAs, swaps
- Modern pricing of vanilla options: caps/floors/swaptions, Black’s formula revisited
- Multi-curve bootstrapping:
- Introducing modern interest rate models:
  1 Beyond the Black’s model: smile generation
  2 SABR revisited
  3 Excel classwork: SABR construction and calibration
- Multiple curves, multiple deltas, multiple hedging

Switching to CSA Discounting in Practice

- Revealing CSA discounting in plain vanilla quotes
- Testing SABR calibration against CSA discounting
- Issues in CSA discounting:
  1 Market issues
  2 Funding issues: trades with or without CSA, CSA chaos, the new ISDA standard CSA
  3 The CVA/DVA/FVA puzzle
  4 Accounting issues and the forthcoming IFRS13
  5 IT issues
  6 Risk Management issues
  7 Management issues
  8 The role of quant

Conclusions & Selected References

Day schedule:
- 09:00 – 17:30
- Break: 10:30 – 10:45
- Lunch: 12:30 – 13:30
- Break: 15:15 – 15:30
Interest Rate Models for a CSA Multicurve Market

• Revising interest rate models and the main pricing formulas for a multicurve market
• Extending short-rate models for discounting different from Libor: Hull and White and CIR
• An HJM framework with credit risk in Libor for modelling the basis with short rates
• Different assumptions on correlation between curves
• A multicurve BGM Libor Market Model with and without stochastic volatility
• Extending the BGM Libor Market Model and SABR to Libor, OIS and Basis Spreads.
• Different formulations of the BGM multicurve model
• An example of practical implementation
• The pricing of volatility and correlation interest rate derivatives: CMS and Exotics.

Credit Risk in the Interest Rate Market

• Different interest rate markets. The risk-free market of textbooks.
• The real markets. The pre-crisis market with homogenous and stable credit and liquidity risk
• Understanding the post-crisis market: heterogeneous and volatile credit and liquidity risk
• Convexity adjustments and FX analogy in terms of credit volatility.
• A structural explanation of the new market patterns for collateralized interest rate derivatives
• A funding option hidden in Libor quotes. The different nature of Libor forwards
• Anticipating the Basis by looking at credit volatility
• OIS bootstrapping
• The real payoff of swaps and FRAs after the crisis

Funding Value Adjustment for Non-Collateralized Derivatives

• How the financing of collateralized derivatives justifies Eonia discounting
• The financing of non-collateralized derivatives. Computing the funding cost.
• Liquidity charge and its interactions with credit charge
• Different funding strategies and different shapes for funding charge
• The role of the Bond-CDS Basis and of the Libor-Eonia Basis on the cost of funding
• Competitiveness in Lending and Management of Liquidity risk. The role of Maturity transformation

Open Issues, Questions and Discussion

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70% Academic Discount (FULL-TIME Students Only)

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