

## **DERIVATIVES PRICING PRACTICE**

### **Dr. Stefano Galluccio**

Stefano Galluccio is a co-founder of Incipit Capital Ltd. Before founding Incipit Capital Stefano was Head of Interest Rate and Credit Trading at BNP Paribas Fortis in Belgium. Prior to the current role, he held several positions in the investment banking industry, including : Deputy Head of Quantitative Research at BNP Paribas Europe and Head of Options Trading Europe at BNP Paribas in London. Dr. Galluccio holds a Ph.D. in mathematical physics from University of Fribourg (CH), a DEA in mathematical finance from University VI in Paris and a Master in mathematical physics from University of Rome I “La Sapienza”. Stefano Galluccio is the author of several academic publications in mathematical physics and mathematical finance, and he is an invited speaker at conferences and workshops worldwide.

### **Course Outline**

The aim of this course is to introduce Derivatives (especially Equity and Fixed Income) pricing and trading, in a very practical way. Combining experience and pure theory improves the course’s understanding. Concrete examples will be used to describe theoretical and practical concepts. The course is divided in two parts: Part I is more theoretical and is concerned with “advanced” tools for pricing that are necessary to be able to work with real-life problems like the ones encountered on a front-office desk and / or in a risk-management function. Part II is less quantitative and it concentrates on ideas, tools and concepts linked to portfolio risk-management, starting from linear payouts (like bonds and futures) until option and more complex derivatives. Overall, the course provides a self-contained introduction to real-world pricing and risk management.

At the end of the course, Participants will be able to:

- Understand the different types of securities commonly traded, both in the counter and OTC
- Price generic derivatives when interest rates are variable
- Know how to adjust pricing in the presence of transactions costs / c.party risk / funding
- Grasp the essential concepts and tolls for the risk – management of a generic book of securities
- Gain some insight of the practice of pricing and risk-managing complex structures

### **Course Structure**

#### **Pricing**

- a Mathematical tools and arbitrage pricing theory
- b basic derivatives contracts
- c bonds and swap markets
- d FX markets
- e Credit Markets
- f hidden costs: LVA, CVA/DVA, FVA

#### **Risk Management**

- a Classic immunization theory for linear derivatives
- b Non-linear derivatives and their greeks
- c market imperfections, static and dynamic hedging
- d Trading P&L decomposition
- e Volatility trading and risk-management
- f Complex models, stochastic volatility and jumps
- g model mis-specification