ANDREA BUGIN

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WORK EXPERIENCE

Apr. 2018 – today **Banca IMI** **MILAN**

Financial Market Technology
Head of Financial Engineering
Main activity are related to the following projects:

1. **IMI Digitalization Project**: development of proprietary tools supporting the trading and sales activity. The project combines several contributions including a) traditional financial models b) machine learning applied to finance c) most modern third party software for quick access to data and visualization resources;
2. **SIMM**: setup of the greeks calculation framework to meet the regulatory requirement for the Standardized Initial Margin Model;
3. **Python for Financial Markets**: promoting the Python language for financial analysis. The provision of Python environments equipped with proprietary financial libraries and data will allow trading room users to multiply their ability to make more informed decisions.

Jan. 2015 – Mar. 2018 **Banca IMI** **MILAN**

Global Structuring
Head of Quantitative Structuring
Main activities were related to the coordination of the following projects:

4. **Product Governance and PRIIPs**: development of proprietary tools supporting the activity of producing the quantitative informations needed to publish the KID for PRIIPs as weel as internal reports of Product Governance;
5. **Bitcoin and BlockChain Projects**: coordination of case studies aimed to evaluate the possibility to adopt blockchain technology and the use of cryptocurrency in financial markets;
6. **Commodity Derivatives pricing tool development:** coordination of a project aimed to expand the set of commodity derivatives managed by the trading desk;
7. **FX and Equity models:** project coordination for the adoption of Local Volatility and Stochastic Local Volatility models for Equity and Forex derivatives.

Referees: Salvatore Crescenzi (Head of Global Structuring Solution)

Oct. 2008 – Dec. 2014 **Banca IMI** **MILAN**

Capital Markets
Head of Fincancial Engineering
Main activities were related to the coordination of the following projects:

1. **XVA Platform development and application management**: the application computes all the counterparty fair value adjustments for uncollateralized contracts at *pre-deal analysis* level;
2. **Central Crearing Web Platform**: the application computes the Initial Margin and Variation Margin at *pre-deal analysis* level. Available via web also for Banca IMI clients;
3. **Internal Financial Libraries development for FO applications**: interest rate, credit, equity, commodity and inflation libraries connected to the Front Office systems (mainly Murex);
4. **Kx DB development and application management**: collected data from markets in an high performance DB used for backtesting algorithmic strategies;

5. **Developlent of Algorithm Trading and Execution Strategies**: plugged in ORC and FastTrack;
6. **Excel application management**: competence center for the development and maintenance of financial Excel spreadsheets.

Referees: PhD Andrea Pallavicini (Head of Equity, FX and Commodity Models), PhD Massimo Morini (Head of Interest Rate and Credit Models at Banca IMI)

Oct. 2000 - 2007 **Banca IMI** **MILAN**

Product & Business Development

Joint Head of Product Development and Equity Trading Research

Product Development Activities included:

1. **C++ financial library development**: this is the reference financial library for the bank, it is interfaced with Excel, MarketView, Murex, Oracle;
2. **new product development**: for example new portfolio insurance strategies (as improvement of the Constant Proportion Portfolio Insurance);
3. **quatitative support to the ABS origination:** development of the cash flow models for any kind of securitisation; see for example MOSAICO (the first Italian multi-originator MBS).

Equity Trading Research Activities included:

1. **volatility forecast research note**: the analysis involves the historical and implied volatility of the main european equity indices;
2. **warrant**: for example development of the new IMI*Next* indices: Reflex, Select and DynaMix.

Referees: PhD Fabio Mercurio (Head of Financial Models, now Head of Quant Analytics at Bloomberg), PhD Damiano Brigo (Head of Credit Models, now Chair in Mathematical Finance and Stochastic Analysis, Imperial College London, Dept. of Mathematics)

Sept. 1998 – Oct. 2000 **Banca IMI** **MILAN**

Product & Business Development

Activities included:

1. **implementation of C++ routines** for fixed inconme security evaluation (yield, sensitivities, asset swap spread…), governement zero curve interpolation using BSplines, libor zero curve estrapolation, libor volatility stripping (from caps), Monte Carlo simulation for the evaluation of american or bermudian option (Longstaff-Schwartz approach), Volatility surface interpolation using 3D BSpline, etc (see working papers);
2. **evaluation of strutured bond** through the implementation of Excel spreadsheet (collared bonds, constant maturity treasury bonds, equity linked bonds, collared bonds, convertible bonds) etc.
3. **teaching internal course for traders and sales.**

Referees: Aleardo Adotti (Head of Product & Business Development)

Oct. 1997 - Sept. 1998 **Credito Italiano** **MILAN**

Risk Management Office.

Activities included: risk control of the whole invetment bank through an in-house-developed software, study of the cubic spline method for interpolating the zero curve, study on volatility measures and estimates (ARCH, GARCH models), collaboration in the Risk Watch™ implementation project.

Referees: Ferdinando Samaria (Head of Risk Management Office), PhD Giorgio Consigli.

Jul. 1997 - Aug. 1997 **Internship at the MedioSim S.p.A. (Medio Credito Centrale).** **MILAN**

Forex Desk.

Activities included: sales of option's structure (that included exotic option: knock out, knock in, binary...), economic update of customers, study of new derivative's structures.

EDUCATION

Sep 2017 – Mar 2018 **Coursera courses in Deep Learning and Appied Data Science in Python**
https://www.coursera.org/account/accomplishments/specialization/UKWZSS473BAF
https://www.coursera.org/account/accomplishments/specialization/EMPGMVDZMZPN

Sep 2014 - Jun 2016 **CFA program**

Sep 1997 - Feb 1998 **Program of Specialisation in Financial Economics.**
Organised by Università Commerciale "Luigi Bocconi", taught by the London Business School's faculty with the sponsorship of Credito Italiano Bank.
Courses included: Fixed Income, Asset Management, Corporate Finance, Stochastic Calculus, Options and Futures and Financial Engineering.

Sep 1996 - Jun 1997 **MEc Master in Economics, Università Commerciale "Luigi Bocconi".**
Master degree "with distinction".
Courses included: Macroeconomics, Microeconomics, Advanced Econometrics, Advanced Statistics, Theory of Finance, Monetary Economics, International Monetary Economics.

Sep. 1989 - Jun. 1994 **Degree in Economics, Università Commerciale "Luigi Bocconi".**
Final Grade: 110/110 magna summa cum laude and printing dignity.
Major: Monetary and Financial Economics.
Courses included: Advanced Statistics, Theory of Finance, Mathematics of Finance, Econometrics, Information and Capital Markets, Game theory, Monetary Policy Analysis.

TEACHING EXPERIENCES

Oct. 2016 - today **ASSIOM FOREX Executive Program** **MILAN**
"Equity Linked Certificate: strutturazione, pricing e hedging"

Oct. 2001 - today **ASSIOM FOREX Corso Base di Front Office** **MILAN**
"Titoli Strutturati"

May 2001 **MEBS Master in Economia e Banca** **SIENA**
"Le operazioni di Cartolarizzazione"

SOFTWARE

Python, Matlab, C++.