Marc Boissaux

Nationality Luxembourgish Date of Birth 19 Feb 1971

Education

2001-2006	Open University (UK) **Bachelor of Science (BSc) in Mathematical Sciences** (distance education), first class honours. (2003: **Diploma in Statistics:** awarded on completion of four second-and third-year Statistics modules.) * Modular 12 unit degree completed using 2 second- and 10 third-year Mathematics and Statistics options.
2001-2003	Birkbeck College, University of London (UK) **Master of Science (MSc) in Finance** (two years part time), distinction. * Quantitative finance degree programme covering finance theory, corporate finance, international finance, auction theory, banking theory, econometrics, numerical analysis and pricing theory. * Summer project covered option pricing under Heston-type stochastic volatility: analysis of original derivation, implementation of analytic (Fourier space) solution, implementation of explicit finite difference pricer, eigenvalue stability analysis, discussion.
1998-1999	University of Bristol (UK) **Master of Science (MSc) in Electronic Engineering**. * Research Master's degree fully funded by British Telecommunications plc. * Research was centered on the design and implementation of a distributed Java software system using mobile agent technology. * Main additional skills developed were modelling techniques for fractal/self-similar time series and protocol design. * Research was published and presented at ITC Mobility and Mobile Systems, Lillehammer, Norway, March 2000.
1995-1998	University of Bristol (UK) **Bachelor of Engineering (BEng) in Electronic and Communications Engineering**, first class honours. IEE prize for best overall performance, 1998. Motorola prize for best final-year project, 1998. IEE Undergraduate scholarship, 1997. Hewlett-Packard prize for best overall second-year result, 1997. University of Bristol scholarship, 1997. Cash prize for best performance in first-year midsessional exam, 1996.
1991-1994	University of York (UK) **Bachelor of Arts (BA) in English (main)/ Philosophy (subsidiary)**, first class honours. Book prize for best second-year philosophy essay, 1993.

<u>Other certifications</u>

- Passed **Level 1 (of 3)** exam of the **CFA (Chartered Financial Analyst)** programme – 2002
- **Sun Java 2 Certified Developer** – 2001
- **Sun Java 2 Certified Programmer** - 2000

<u>Employment experience</u>

Luxembourg School of Finance, University of Luxembourg, Luxembourg
Research assistant/PhD candidate: February 2009 – to date

Ikano Fund Management SA, Luxembourg
Developer: March 2008 - February 2009
IT Environment: Windows XP, Bloomberg, Visual C# 2005, Excel 2003.
Main projects:
- Researched and implemented numerically stable modified Simplex and Goldfarb-Idnani quadratic programming solvers, and put them to use in internal Sharpe and Fama-French fund returns style analysis tools.

IKB Deutsche Industriebank, Luxembourg
Quantitative Analyst (Front Office): March 2005 - March 2008
IT Environment: Windows XP, Unix, Reuters Kondor, Reuters 3000, Bloomberg, Numerix, Summit, Murex, CVS/Sourceforge, Excel 2000, Visual C++ 2005.
Main projects:
- Created Excel valuation infrastructure for the pre-deal pricing of IR and FX derivatives from scratch on joining the bank. Initial valuation of products using the commercial Numerix package.
- Replacement of some Numerix valuations by VBA implementations to improve market conformity.
- Creation of a self-contained C++ valuation library and gradual replacement of the remaining Numerix implementations. Full Excel interface. Main implementation blocks:
  - term structure - bootstrapping, interpolation;
  - swaption, cap and FX vol surfaces - caplet vol bootstrapping, obtention of FX vols from ATM/RR/BF market quotes;
  - analytical pricers for vanilla caps, digital caps (bull spread), CMS spread caps (Kirk and two factor integration), FX vanilla options, FX regular and reverse barrier options (Vanna-Volga adjustment);
  - generic tree and MC engines to work with any affine short rate term structure models, calibration infrastructure, implementation of both Hull-White 1F and G2++ (additive formulation of Hull-White 2F) short rate models, pricing of IR exotics such as ratchets, autocallables or TARN;
  - generic library architecture to decouple client specific parameters or market data from the core library so as to facilitate later integration with the Murex trading system.
- Market data research, specification, configuration and configuration as well as validation of the Murex pricing functionality, all undertaken as part of the (ongoing) Murex implementation project.
- Daily quantitative support to traders and structurers.

Deutsche Bank AG, London, UK
Architect/Developer: August 2000-March 2005
IT Environment: Windows NT, Linux, JBoss, Weblogic(6.1/7.0/8.1), CVS/Sourceforge, Source Safe, Ant, Oracle (8i/9i), Visual C++ 6.
Main projects:
- Specified algorithm and implemented MC calculation of Operational Risk VaR for different user-selectable loss scenarios. Calculation part in C++; web front end using Struts JSPs. Interface in JNI. Scenario persistence using Hibernate.
- Quantitative development work on model validation C++ library: various bond, bond option and swaption finite difference credit derivative pricing models.
- Central role in the initial architecture and development of operational risk scorecard production system. Technologies used -- EJB, servlets/JSP and JMS on JBoss then Weblogic cluster. Solely responsible for the scoring engine part of the system which involves parsing of free text arithmetic risk indicator expressions.
- Carried out architecture compliance review and generated compliance plan for Operational Risk IT.

- Participated in Risk IT Architecture Forum meetings as the 'designated architect' for Operational Risk IT.

British Telecommunications plc, Martlesham, Ipswich, UK
Graduate professional: September 1999-August 2000
IT Environment: Windows NT, Linux, Java, Weblogic(6.1), Oracle (8i), Visual C++ 6.
Main projects:

- European Community funded ‘active networks’ research project: modelling, implementation.
- Set projects for and supervised work experience students.
- Followed distributed systems, marketing and solution design modules of optional part-time MSc jointly organised by BT and the University of London.

Languages

English (degree level), German (very good), French (good), Japanese (very basic; Level 4 Proficiency Certificate).
Also Luxembourgish (native) and Latin.