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- Executive Director of the Digital Gold Institute, I teach "Bitcoin and Blockchain Technology" at Politecnico di Milano and Milano-Bicocca University. Former Head of Blockchain and Virtual Currencies in Intesa Sanpaolo bank, I have been member of the Scaling Bitcoin Planning Committee and I have been Chairman of Scaling Bitcoin 2016 in Milan.
- Fintech innovator, technologist, and open source developer, I am author of scientific publications and contributor to multiple media outlets. Appreciated professor, speaker, panelist, lecturer, and instructor, I have been invited to events about bitcoin at the United Nations, central banks, the Italian Parliament, universities, conferences, and workshops.
- I am also founder and co-administrator of the QuantLib project, a comprehensive free/open-source software framework for quantitative finance. Interest Rate Derivatives Adjunct Professor at the Milano-Bicocca University, I have relevant publications on this subject and have headed trading, quantitative, and risk-management teams in Banca IMI (Intesa Sanpaolo), Banca Caboto and Monte Paschi Asset Management; he has also been co-founder and managing partner of RiskMap (now StatPro Italia).

PROFESSIONAL EXPERIENCE

October 2018 Present	**Digital Gold Institute (www.dgi.io).** Executive Director.
October 2016 Present	**Politecnico di Milano - Master Program in Mathematical Engineering.** **Milano-Bicocca University - Master Program in Economics & Finance.** Adjunct professor: “Bitcoin & Blockchain Technologies”.
October 2013 Present	**Milano-Bicocca University - Master Program in Economics & Finance.** Adjunct professor: “Interest-Rate Derivatives”.
July 2016 December 2017	**Banca IMI (Intesa Sanpaolo Group).** Cash digitization proof-of-concept using the bitcoin protocol for a private distributed blockchain: Full network deployed, including iOS/Android/Windows wallet and web block-explorer. Bank of Italy was informed of our progresses.
January 2016 June 2016	**Intesa Sanpaolo Group - Chief Innovation Office**. Head of Blockchain and Virtual Currencies.
November 2007 December 2015	**Banca IMI (Intesa Sanpaolo Group) - Financial Engineering Team**. Executive managing director. Head of Rate Curves and Clearing Tools.
January 2006 October 2007	**Banca Caboto** (now **Intesa Sanpaolo**) **- Financial Engineering Team**. Executive managing director, Head of Front Office Quantitative R&D. Gradually reshaped existing office with additional internal resources and prestigious external consultants, resulting in a small (5+2) international (Italy, France, Belgium, UK, Australia) team strongly focused on fixed income.
January 2004 December 2005	**Monte Paschi Asset Management SGR - Head of special projects.** Reporting to CEO. Lead the development of web-apps for tactical/strategic asset allocation, personal financial planning, and risk management. The 16 people international team developed data layer, optimization engines, and UI.
February 2002 December 2003	**Monte Paschi Asset Management SGR - Risk Management Office**. Valuation of derivative and structured products.
May 2000 January 2002	**RiskMap** (now **StatPro Italia**) – **Co-founder, managing partner**. Head of R&D team (7 people). Managed personnel selections, coached junior team members, supervised system development, and set up application-level user support.
June 1999 May 2000	**Banca Caboto** (now **Intesa Sanpaolo**) **- Interest rate junior trader**. Interest rate option desk: risk analysis, pricing, hedging, sales support.
November 1996 May 1999	**Banca Caboto** (now **Intesa Sanpaolo**) – **Front Office Quantitative Analyst**. Progressed up to Head of Fixed-Income team. Focused on real-life trading floor model usage, developed numerical tools for exotics pricing/hedging.

PROJECT MANAGEMENT

- 2015-2016, Intesa Sanpaolo: acquainted the bank group with bitcoin and blockchain technology. Started the blockchain internal practice. Joined the just created Innovation Office, then moved back to business.

- 2015-2016, Banca IMI: pioneered the rate curve basis modelling, with effective and parsimonious *abcd* parameterization. Jumps and ON idiosyncratic peculiarities were properly considered.
- 2012-2014, Banca IMI: led the development of a web-app for the clearing brokerage business, starting with LCH interest rate products. Managed small international team of exceptional professionals.
- 2010-2011, Banca IMI: implemented tools for structuring and pricing basis-spread driven bond portfolio managed funds. This was a new business line with large volumes.
- 2008-2009, Banca IMI: reviewed and assessed EUR rate curves bootstrapping after summer 2007 credit/liquidity crisis. Devised basis spread approach for sound estimation of smooth forward EONIA and Euribor rates and developed discounting framework. Deployed the solution in a constrained IT/Trading environment. Conference speaker, consultant and trainer for Banca IMI top clients.
- 2006-2007, Banca Caboto: coordinated Market Model framework development, in cooperation with Mark Joshi. Implemented displaced log-normal Libor, co-terminal swap, and CMS market models. Callable product valuation using LS, Anderson, Amin-Joshi schemes. Greek calculation with Joshi-Fries partial proxy schemes. Smooth simultaneous calibration to caplets and co-terminal swaptions. Published paper.
- 2006, Banca Caboto: implemented Hagan swaption-replica approach for CMS valuation. Performed vega-weighted SABR calibration, with beta calibrated to CMS market prices.
- 2006, Banca Caboto: built Fixed Income analytic library from scratch extending QuantLib code base. Created object-oriented QuantLibXL Excel addin using ObjectHandler; automated deployment using the QuantLibXL Launcher. Adopted efficient software development practices.
- 2004-2005, Monte Paschi Asset Management SGR: development of a web *Advisory Tool* platform for asset allocation, risk management, and commercial strategy: investor risk profiling, strategic & tactical asset allocation (Black-Litterman model), risk & value management. Originally created for Institutional Investors, and then extended to Private Banking and Upper Affluent clients.
- 2002-2003, Monte Paschi Asset Management SGR: assessment of derivative and structured product usage, development of pricing and risk management tools, compliance and reporting procedures.
- 2000-2001, RiskMap: developed on-line trading/banking option pricing, risk management (VAR), and asset allocation systems for Dresdner Kleinwort Wasserstein, Monte Paschi Finance, et al.
- 1999, Banca Caboto: leading role for the integration of the Numerix library into Caboto's own proprietary systems. Managed international consultants, recruitment of additional internal resources. Complete C++ re-writing of existing legacy code. Worked closely with trading desks, risk management, and IT functions.
- 1997-1998, Banca Caboto: developed proprietary IRD risk and pricing system: more than €10B managed with this system. Developed algorithmic trading system for the Government Bond and Strips.

SKILLS

- Bitcoin and blockchain technologies. Technical leadership on financial projects; academic research on crypto-economics price stability, advocating automated non-discretionary elastic monetary policy for a new generation of cryptocurrencies (Hayek Money).
- Interest Rate Derivatives: state-of-the-art bootstrapped ibor/ON curves, fitted Treasury curves. Linear and non-linear products; margining, collateralization and clearing; rate and volatility modelling.
- Equity Derivatives: exotic options, local volatility, fair knowledge of stochastic volatility models.
- Value at Risk, Average Shortfall, and risk measures; Asset Allocation: MPT, CAPM.
- Numerical Methods: PDE, finite differences, trees. Monte Carlo and (Randomized) Quasi MC.
- Programming and development tools: Python, C++ (STL/Boost), Excel/VBA, UnitTest, git, SVN, etc.

PAPERS

- "Bitcoin, Blockchain, and Distributed Ledgers: Between Hype and Reality" (2017). https://goo.gl/Z9OeHt
- with Luigi Ballabio and Paolo Mazzocchi, "The ABCD of Interest Rate Basis Spreads" (2015). http://ssrn.com/abstract=2696743
- "Hayek Money: The Cryptocurrency Price Stability Solution" (2014). http://ssrn.com/abstract=2425270
- with Marco Bianchetti, "Bootstrapping the Illiquidity: Multiple Yield Curves Construction for Market Coherent Discount and FRA Rates Estimation". Published in "Interest rate modelling after the financial crisis", edited by M. Morini and M. Bianchetti, Risk Books, 2013.
- with Marco Bianchetti, "Everything You Always Wanted to Know About Multiple Interest Rate Curve Bootstrapping but Were Afraid to Ask". April 2013. ssrn.com/abstract=2219548
- with Mark S. Joshi, "Smooth simultaneous calibration of the LMM to caplets and co-terminal swaptions" (2008), Quantitative Finance, vol.11 (4), pp.547-558. ssrn.com/abstract=1092665
- with Marco Bianchetti, "Bootstrapping the Illiquidity: Multiple Yield Curves Construction for Market Coherent Forward Rates Estimation". Published in "Modeling Interest Rates: Latest Advances for Derivatives Pricing", edited by F. Mercurio, Risk Books, 2009. http://ssrn.com/abstract=1371311

EDUCATION

- Ansaldo Energie fellowship: superconducting magnets simulation at INFN Milan and CERN Geneva.
- Physics Laurea: Università degli Studi di Milano, **110/110 *cum laude***.
- *Maturità Classica*: Liceo Classico "M. Morelli" in Vibo Valentia, **60/60**.