Jakob Jan Bosma

Floris Heermalestraat 8 3514VW Utrecht NL

j.j.bosma@bosma-qs.com
+31 (0)6 29 399 301

(click underlined items for hyperlink)

Profile

Hands-on **quantitative analyst** with experience in model development and validations in both market and credit risk with a focus on quantitative finance and econometric methods. Has carried out single-handed validations of Vanilla and Exotic interest rate and inflation derivatives with the implementation of associated payoffs and pricing engines in benchmark libraries. Via these activities **gained experience in departments like financial markets, trading, treasuries, legal and regulatory**. Engages in academic research with publications in top-tier journals in the fields economics and econometrics, and teaches various master level courses in the area of finance and investing. Current research interests comprise modelling yield curve dynamics. Dutch native speaker and fluent in English. Core capabilities and strengths include:

- ♢ Quantitative Finance
- ♢ Finance & Treasury
- ♢ Credit Risk Models
- ♢ Model Development/Validation
- ♢ Banking Regulation (Market and Credit Risk)
- ♢ Machine Learning (Information Theory)
- ♢ Stochastic Calculus
- ♢ Portfolio management

Experience

- **Bosma Quantitative Services B.V.** Utrecht, NL
  Quantitative Analyst | Self Employed as Consulting Quant *Jan. 2020 – present*

  As an independent consultant mainly involved in market and credit risk model development and validation projects for financial institutions (trading, treasury and retail). Constructed an investment fund around a fundamental value/growth oriented trading strategy and developed proprietary tools for the fund.

  – At ING Bank N.V., financial markets (2024 - present)
    * Design and implement a benchmark library (c++ and Python) to compute the credit valuation adjustment for a portfolio of Vanilla and Exotic derivatives.
  – Independently constructed and ensured AFM registration for 2 investment partnerships acting as family offices and developed a licensed derivative pricing library for the funds (2021-2022). Maintenance of licensed libraries (2022 - present).
  – At de Volksbank N.V., credit risk model development (2023 - 2024)
    * Developed and implemented LGD models in a regulatory significant change request with the aim to attain advanced IRB status for the bank. Supported the development of PD and CCF models.
    * Developed and implemented a RWA add-on approach for IRB PD and LGD and risk parameters which captures specific risks pertaining to interest-only mortgages. Explored construction of ESG proxies for risk drivers in light of Feb 2024 ECB Guide of Internal Models update.
  – At De Vereniging Woekerpolis.nl/De Consumentenbond (Oct 2023):
    * Party witness in a court case against insurance companies.
    * Presented shortcomings in life-insurance valuation models.
  – At ING Bank N.V., market risk model validation (2020-2022):
    * Developed validation standards and a validation benchmark approaches for the Risk-Not-In-Model (RNIME) framework to complement the internal risk models for derivatives in scope for market risk. These standards and the benchmark library are currently also used for the validation of Fair Value Adjustment quantification methodologies and trading model reserves. Scope also included XVA-related subjects such as ColVA and FVA.
    * Acted as team lead/project manager for other RNIME validation projects by guiding junior/medior team members in other RNIME validation projects.
  – European Investment Bank, market risk model validation (Q3 & Q4 2021):
    * Succeeded in securing an RFP on various validation projects in the domain of banking book risk.

- **University of Groningen** Groningen, NL
  Lecturer in Finance, parttime since Nov. 2015 (Tenure Track before) *Aug. 2014 – present*

  Full-time as Tenure Track Assistent Professor from August 2014 – August 2015

  At the Economics, Econometrics and Finance department.

  – **Teaching,** Finance & IFM MSc level: See Teaching section below.
  – **Research:** Asset pricing, yield curve dynamics and option pricing methods.

- **Triple A - Risk Finance** Amsterdam, NL
  Quantitative Risk Consultant *Aug. 2018 – Dec. 2019*

  Main activities comprise development of various credit risk models in banking. Additional activities: development of consulting/research propositions and provide methodology training for junior consultants. Developed a proxy methodology for missing risk factors in a market risk context.

  – At a large Dutch bank, credit risk model development, IFRS9:
    * Developed an econometric loss model to infer the expected credit loss values for contracts in a default state with panel data. The estimated model is used to compute the Loss Given Loss with contract-specific data and macroeconomic variables.
    * Provided all-round support in the development of the quantitative staging model required for the IFRS9 Risk Stage Determination standards to determine a significant loan impairment.
    * Assisted in the further development of a transition matrix method used for the calculation of forward looking default probabilities (12 months and lifetime). Transition-state probabilities are driven by latent macroeconomic state factors and obtained with a Kalman filter method.

- **ING Bank** Amsterdam, NL
  Quantitative Analyst *Sep. 2015 – Jul. 2018*

  At the Financial Risk, FI/FM Quants department. Activities included the replication and validation of front office derivative pricing systems for exotic interest rate instruments and their pricing engines in C++:

  – **Main activities:**
    * Implemented a benchmark pricer for the validation of total return swaps associated with asset-backed securities and covered bonds.
    * Implemented the forward CPI curve construction routines required to price inflation derivatives.
    * Assisted in the implementation of the multiple-curve pricing framework for interest-rate derivatives.
    * Implemented a monte-carlo routine with the Longstaff-Schwarz algorithm for the validation of Steepeners, Bermudan swaptions and callable range accruals.

Teaching (Parttime)

- **Institutional Investment Management (EBM822A05)** Groningen, NL
  MSc Finance *2015 – present*
  – Course coordinator, main lecturer (shared position)
  – Design and organize case studies, assignments and exams
  – Course rated among top 5 courses faculty wide in 2019.

- **International Financial Institutions & Governance (EBM198A05)** Groningen, NL
  MSc International Financial Management *2023 – present*
  – Course coordinator and main lecturer
  – Design and organize case studies, assignments and exams

- **Treasury & Financial Management EMFC (EBE006B04)** Groningen, NL
  Executive Master of Finance and Control *2025 – present*
  – Course coordinator and main lecturer
  – Design and organize lectures, case studies, assignments and exams

- **Treasury & Risk Management (*under development*)** Groningen, NL
  MSc Financial Management *planned 2026 - 2027*
  – Course coordinator and main lecturer
  – Design and organize lectures, case studies, assignments and exams

- **Master Thesis supervision** Groningen, NL
  MSc Finance, MSc International Financial Management, MSc Economics *2011 – present*
  – Main supervision topics: Factor Theory and Investing, Quantitative Finance, Banking, Fixed Income.
  – Occasional supervision of double-degree thesis topics, e.g. Msc Finance in combination with MSc Economics.

- **Past teaching** Groningen, NL
  MSc Finance, BSc Economics, BSc Econometrics *2010 – 2015*
  – Finance I; BSc Economics, BSc Econometrics
  – International Economics IIb; BSc Economics
  – Research Methods in Finance; MSc Finance

Education

- **University of Groningen** Groningen, NL
  PhD in Econometrics & Quantitative Economics *Sep. 2010 – Jul. 2014*
  - Title On systemic risk formation, Research areas: Financial econometrics, asset pricing, signalling games.
    - Research visit at Deutsche Bundesbank (German central bank), Frankfurt a.M. (DE), 2011.
    - Awards: Faculty-wide Best PhD Dissertation Award of 2014.

- **University of Groningen** Groningen, NL
  MSc Econometrics, DPhil in Economics and Econometrics; cum laude *Sep. 2008 – Aug. 2010*
  - Main topics: Theoretical and applied econometrics, mathematics, information theory, game theory, quantitative finance, macroeconomics.

- **University of Groningen** Groningen, NL
  BSc in Economics (honors program); cum laude *Sep. 2005 – Aug. 2008*
  - International MBA exchange program Fudan University, Shanghai (CN), joint with MIT Sloan (US), 2008.

Skills

Programming: C++, C#, Python, Git version control, Mex (Matlab), Mata (Stata).

Software/packages: GCC, Visual Studio, quantlib, boost, armadillo, R, Matlab, SAS, MS Excel (incl. VBA).

Institutional software: Various in-house trading software for financial markets, Summit FT 5.6, Intex (RMBS, ABS and Covered Bonds valuation tool), Kondor+.

Courses: Programming in C/C++, part I – III, University of Groningen, 2012; Adjoint Algorithmic Differentiation, Global Derivatives (now QuantMinds International) Conference, 2016.

Soft skills: Awarded lecturing experience in university finance/econometrics master programs, 2010 - present. Various courses in consultative selling and writing, Amsterdam 2019. Experience in Agile Working, 2017 - present.

Peer-reviewed publications

Bosma, J. J., M. Koetter and M. Wedow (2019). Too connected to fail? Inferring network ties from price co-movements *Journal of Business Economics and statistics 37*(1), pp. 67-80

Bosma, J. J. (2016). Dueling policies: Why systemic risk taxation can fail. *European Economic Review 87*(3), pp. 132–147

last updated: May 8, 2026