

Luca Schmitz

Frankfurt, Germany • schmitz@imfs-frankfurt.de • +49 1575 5947258

[Personal website](#) • [Forecasting platform](#) • [LinkedIn](#)

PhD student in economics specialising in macroeconomic forecasting and risk, monetary policy, model uncertainty, and macroeconomic implications of AI. Research combines classical models with high-dimensional and machine learning methods or policy scenario analysis. I gained experience at the IMFS and Deutsche Bundesbank, with policy work for the European Parliament.

Selected Research and Policy Work

Behind the Curve: Reassessing Inflation Risks Using a High-Dimensional Distributional VAR (HiDVAR)

2025 – Present

[Working paper](#)

- Develop a high-dimensional distributional VAR with path-consistent, nonparametric densities for Outlook-at-Risk forecasting, outperforming the FRBNY approach during the inflation surge; evaluate predictive distributions out of sample against benchmark models.
- Construct a FRED-QD version with extended vintage coverage and better imputation.

AI and Monetary Policy – How to adjust policy strategy for uncertainty and risks due to AI

Policy report with Volker Wieland, requested by the European Parliament

2026

- Analyse implications of AI for monetary-policy reactions and uncertainty; conduct scenario analysis of AI diffusion and investment in the euro area.

Many Models, Little Certainty: Lessons from 25 Years of Real-Time Macroeconomic Forecasting in the US

2025 – Present

Work in progress • [Interactive forecasting platform](#)

- Built a platform comparing 50 DSGE, time series, machine learning, neural network, and foundation models.
- Evaluate quarterly forecasts over 25 years in real-time using modified FRED-QD data across horizons and scenarios.

History does not repeat itself, but it rhymes: A VAR Dirichlet Process Mixture Approach to Macroeconomic Forecasting

Work in progress

2024 – Present

- Introduces a Dirichlet-Process-Mixture VAR with GARCH-volatility and dynamic conditional correlations.
- Real-time Bayesian estimation with Hamiltonian Monte Carlo in STAN

Education

PhD in Economics

Sep 2023 – Present (3 years completed)

GSEFM, Goethe University Frankfurt

- Ranked first in qualifying examinations; advisor: Prof. Volker Wieland.
- Research fields: macroeconomic forecasting, monetary policy and structural macroeconomic modelling.

MSc in Quantitative Economics

Sep 2023 – 2026(expected)

GSEFM, Goethe University Frankfurt

- Thesis (euro area): *A Macroeconomic Uncertainty Index for Euro Area Countries: Construction and Applications to Tail Risk Forecasting.*
- German average grade: 1.0 (1.0 is the highest grade; thesis under review). Coursework: Bayesian modelling, time series econometrics, DSGE solution and estimation.

BSc in Economics and Business Administration

Oct 2019 – Apr 2023

Goethe University Frankfurt

- German grade: 1.1; thesis on model averaging and forecasting under model uncertainty (grade: 1.0).

Research and Policy Experience

Appointed Member, Monetary Policy Expert Panel

2026 – 2028

European Parliament, Economic Governance and EMU Scrutiny Unit (EGOV)

- Provide monetary-policy expertise to the Committee on Economic and Monetary Affairs (ECON).
- Co-author policy analysis of AI, monetary policy and euro-area scenarios (see *Selected Research and Policy Work*).

Research Assistant

Institute for Monetary and Financial Stability (IMFS), Chair of Prof. Volker Wieland

Nov 2024 – Present

- Contributor and team member to the [MacroModelBase](#) research platform for macroeconomic model comparison.
- Support DSGE and high-dimensional forecasting research using real-time macroeconomic data; supervise bachelor's and master's theses.

Intern – Bank Supervisory Stress Tests

Deutsche Bundesbank

Jun 2023 – Sep 2023

- Revised model-averaging frameworks for supervisory applications; drafted internal reviews and documentation for stress-test model components.

Technical Skills and Languages

Quantitative programming: R, Python, MATLAB and Dynare.

Methods: DSGE and Bayesian VAR models; time series econometrics; quantile and density forecasting; (dynamic) factor models; machine learning and neural networks (PyTorch); real-time forecast evaluation.

Data sources: ECB Data Portal, Eurostat, OECD Database, IMF Database & Outlooks, FRED, ALFRED, extended FRED-QD.

Visualisation and tools: Excel, PowerPoint, ggplot2, $\text{\LaTeX}$, Git, HTML, JavaScript; interactive forecasting platform.

Languages: German (native); English (C2; IELTS 8.5/9, 2023).

Teaching, Academic Service and Presentations

Teaching Assistant – Monetary and Fiscal Policy: Theory and Practice

2025 & 2026

Goethe University Frankfurt, PhD-level course

Lecturer, Static Optimization with MATLAB (PhD-level pre-course), Goethe University Frankfurt *2026*

Tutor, Mathematics for Economists (100+ undergraduates), Goethe University Frankfurt *2020 – 2022*

Lead organiser, [Bonn–Cologne–Frankfurt–Mannheim PhD Conference](#) *2025, 2026*

Presentations 2026: International Symposium on Forecasting (Montreal); European Meeting of the Econometric Society (Dublin); Bundesbank Summer School (Eltville); Bonn–Cologne–Frankfurt–Mannheim PhD Conference (Cologne).

Selected Awards

GSEFM Prize – Best First-Year PhD Student

2024

Deutschlandstipendium – German Federal Scholarship

2024 – 2025

fwg Bachelor Excellence Award – top 5% of graduates

2023

Additional Experience

Deutsche Börse AG – Financial Risk Management Intern

Jul – Oct 2022

Analysed volatility across 5,000+ instruments; supported Clearstream collateral risk reporting.

EY – Valuation, Modelling & Economics Intern

Apr – Jun 2022

Built valuation models and prepared materials for regulatory reviews.