

OLIVÉR NAGY

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Summary: PhD candidate, 8 years of experience in **economic policy**, **econometrics**, and **quantitative development**
Languages: Python, Shell, LaTeX, Stata, SQL, Julia, VBA, C#, R, Matlab, C++, Java, M-Code, CUDA (in this order)
Tools: Git, GitHub, LSEG DataStream, Bloomberg Terminal, MS Excel, Visual Studio, PyCharm, VS Code, Quarto, Marimo

EDUCATION



ELTE Eötvös Loránd University

PhD in Economics

PhD Candidate since July 2024

Sep 2022 - Present

Budapest, Hungary



Óbuda University

BSc in Computer Science Engineering

Incomplete

Sep 2020 - Jul 2022

Budapest, Hungary



Corvinus University of Budapest

MA in Economic Analysis

Sep 2016 - Apr 2020

Budapest, Hungary



Corvinus University of Budapest

BA in Applied Economics

Sep 2013 - Jul 2016

Budapest, Hungary

EXPERIENCE



Citibank Europe plc
Hungarian Branch Office

Sep 2026 - Present

Budapest, Hungary

Quantitative Developer,
Markets Quantitative Analysis (MQA)

- [C++17] Develop and maintain a **C++ curve-construction library** used to strip curves and quantify risk for linear rates products.
- [Testing] Develop Python-based tests and analytical tools to validate library behaviour, investigate pricing and risk discrepancies, and diagnose quantitative or implementation issues.



Morgan Stanley
Morgan Stanley Magyarország Elemző Kft.

Feb 2025 - Sep 2026

Budapest, Hungary

Quantitative Model Developer,
Corporate FP&A

- [Forecasting] Developed Net Interest Income forecasting model for CCAR using **ARDL specifications with macroeconomic drivers**. Conducted data cleaning, exploratory analysis, model specification and estimation, backtesting, validation testing and documentation.
- [Regulatory Stress Testing] Developed capital allocation models for trading and loan books used in **CCAR and DFAST exercises**, supporting forward-looking capital planning under regulatory stress scenarios.
- [Model Governance] Worked closely with FP&A Controllers, model owners across business units, and Model Risk Management throughout the **model development and review process**, incorporating business and model-risk requirements into quantitative specifications.
- [Project Management] Translated business assumptions into model specifications, **coordinated modelling requirements across stakeholders**, and presented model methodology and results to business and risk-management stakeholders.



Central Bank of Hungary
Magyar Nemzeti Bank

Nov 2018 - Oct 2024

Budapest, Hungary

Research Economist,
Economic Research Dep.

Jan 2022 - Oct 2024

- [Volatility Modeling] Built **GARCH** models to analyse the change in their predictive ability after the pandemic. Also implemented code for **regime-switching GARCH-MIDAS** model in Python.
- [Financial Event Study] **Analysed the impact of geopolitical events on the stock and sovereign CDS markets**. These studies covered various research designs, from simple regression-based event studies through expectation quantification to including Granger networks.
- [Asset Pricing] **Analysed multiple risk factors / pricing anomalies using LSEG Datastream's granular firm-level data**. This involved data cleansing to eliminate known discrepancies, implementing the Fama-MacBeth two-step regression, and conducting comprehensive backtesting and portfolio evaluation to validate models.

- [Monetary analysis] **Monitored key nations' economic dynamics, inflation trends, and monetary policies**, including the United States, Switzerland, Norway, Australia, and New Zealand. Evaluated monetary policy decisions based on their implications for inflation and labour market fluctuations.
- [Automation] Using M language, VBA, and Power Query **automated a large part of the monitoring process, effectively reducing the production time of briefings and presentations by 80 per cent.**
- [Communication] Consistently delivered scheduled and ad-hoc briefings to the Central Bank's (MNB) senior leadership and the Monetary Council (MC), offering critical insights into global trends that influence monetary policy. Over the period, **compiled 100+ briefings and presentations.**
- [Forecasting] Worked on empirical macroeconometric models, such as **Bayesian vector autoregressions (BVARs)**, and used these models to forecast macroeconomic trends and execute scenario analyses pivotal for internal strategic studies.

- [Automation] Improved the reporting processes, data access and analysis with SQL and VBA. **Reduced the regular recalculation of bank capital buffers from 2 weeks to 3 days.**
- [Communication] Regularly compiled and delivered briefings and presentations to the senior management, providing insightful analyses and updates to the Financial Stability Council.

TEACHING



MNB Institute
John von Neumann University

Aug 2022 - Jul 2024
Budapest, Hungary

- [Teaching] **Taught advanced-level econometrics** covering statistical theory, finite-sample and large-sample theory of linear regression, and bootstrapping.
- [Teaching] **Taught an elective course on economic policy analysis** covering the analysis of labour market and inflation dynamics, the assessment of fiscal and monetary policy, and balance of payments analysis.

PUBLICATIONS

- Chen, C., Barkó, T., & **Nagy, O.** (2025). [Inflation and Uncertainty: Evidence from GARCH-MIDAS-in-Mean Modelling](#) *Financial and Economic Review*, 24(3), 52–72.
- Chen, C., **Nagy, O.**, & Neszveda, G. (2025). [COVID-19 Pandemic and Stock Volatility Forecasts: A Comprehensive Evaluation and Comparisons](#). In: Encyclopedia of Monetary Policy, Financial Markets and Banking.
- **Nagy, O.**, & Neszveda, G. (2025). [Assessing geopolitical risk: Sovereign CDS insights from the Russo-Ukrainian War](#) *Economic Analysis and Policy*, 85, 1995–2006.
- Granát, M. P., Lehmann, K., **Nagy, O.**, & Neszveda, G. (2023). [Expect the unexpected: Did the equity markets anticipate the Russo-Ukrainian War?](#) *Finance Research Letters*, 58, 104301.
- Lehmann, K., **Nagy, O.**, Szalai, Z., & H Várad, B. (2020). [Coordination \(?\) between the Branches of Economic Policy across the Euro Area](#) *Financial and Economic Review*, 19(1), 37–64.
- Mérő, B., **Nagy, O.**, & Neszveda, G. (2019). [Testing new factors in empirical asset pricing](#) *Sigma*, 50(4), 263–281. (In Hungarian).

RELEVANT COURSES AND CERTIFICATIONS



Barcelona School of Economics - Summer School Courses

- Harnessing Language Models (2024): NLP, TF-IDF, RNN, Transformers, BERT, LLM, RAG, Hugging Face Tools
- Statistical Machine Learning (2024): Bayesian Statistics, Regularization, Model Averaging, Double Machine Learning, Nonparametric Regression, Variational Inference, HMC, Bag-Of-Words
- Time Series Methods for Risk Analysis (2023): GARCH, DCC-GARCH, CoVaR, SRISK, Growth-at-Risk
- Time Series Models for Macroeconomic Analysis II (2023): Dynamic Factor Models, Markov-Switching Dynamic Factor Models, GIRFs, Growth-at-Risk

- Time Series Models for Macroeconomic Analysis I (2022): Identification methods for VARs, FAVAR, TVP-VAR



Bloomberg for Education

- [Bloomberg Market Concepts](#) (2023): Bloomberg Terminal Basics, Equity Valuation, Fixed Income, Currencies



Óbuda University

- Programming 1 - 4: C#, Git, Algorithms, Data Structures, OOP, SOLID, .NET Core, Entity Framework, ORM, WPF, MVVM, Clean Code, Test-Driven Development, Design Patterns
- Machine Learning, Deep Learning 1-2: Python, Keras, scikit-learn, Clustering, Classification, Regression, Boosting, Loss Functions, Activation functions, Neural Networks, ANN, CNN, RNN



Österreichische Nationalbank - Summer School Course

- Economic Policy Evaluation (2021): RCT, Diff-in-Diff, Synthetic Control, RDD



DataCamp

- [R Data Analysis Track](#) (2017): tidyverse, dplyr, data.table, ggplot2
- [R Developer Track](#) (2017): tidyverse, dplyr, functional paradigm

LANGUAGES

- Hungarian: Native proficiency
- English: Full professional proficiency