Tibor Szendrei

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Employment History

2024 –	**Senior Economist,** National Institute of Economic and Social Research
2022 – 2024	**Research Assistant,** Heriot-Watt University *Projects:* Statistical Review of World Energy (BP, Energy Institute), Negative Externalities on Green Economic and Financial Growth, Data-Driven Carbon and Energy Price Forecasting
2021 – 2024	**Teaching Assistant,** Edinburgh University (Scottish Graduate Programme in Economics) *Course:* Econometrics 2: Time Series
2021 – 2021	**Intern,** National Institute of Economic and Social Research
2019 – 2024	**Teaching Assistant,** Heriot-Watt University *Courses:* Statistical Techniques, Introductory Econometrics, Introductory Economics, Intermediate Economics 2, The Economy, Applied Financial Modelling in Python
2017 – 2018	**Economist,** Central Bank of Hungary
2016 – 2017	**Analyst,** Central Bank of Hungary
2015 – 2016	**Junior Analyst,** Central Bank of Hungary

Education

2019 – 2024	**Ph.D. Economics, Heriot-Watt University**. Thesis title: *Essays in Quantile Regression with Growth-at-Risk and allied applications* (Passed with minor corrections)
2018 – 2019	**M.Sc. Economics (Econometrics), University of Edinburgh** in Scottish Graduate Programme in Economics. Dissertation title: *Modelling house prices: QARDL vs. HaR.*
2013 – 2014	**M.Sc. Economic Studies (Social Economics), Maastricht University**. Dissertation title: *Regulatory Forbearance: A Comprehensive Look at What It Is and What It Does.*
2010 – 2013	**B.Sc. International Economic Studies, Maastricht University**. Dissertation title: *Does the Presence of Zombie Banks Disrupt the Schumpeterian Notion of Creative Destruction?*

Miscellaneous

Research community

Reading Group	Helped organise the Economics Reading Group at Heriot-Watt University (2019-2023).
Referee Activity	Spatial Economic Analysis, Journal of Statistical Software, International Review of Financial Analysis, Science Progress, Journal of Forecasting.
Conference presentations	CESS (2016), ASMDA (2017), CEPR/ESRB/MNB (2017), ELTE Financial Statistics (2017), SGPE Crieff (2020, 2021, 2022, 2023); Panmure House (2020, 2021, 2022), CFE (2021, 2024), DAFM (2021), ISF (2021, 2024), IWAP (2023), RiskLab/BoF (2024), EEA (2024), MMF (2024)

Miscellaneous (continued)

Skills

Languages — Fluent in Hungarian and English. Beginner level in Japanese
Coding — MATLAB, R, Python, Julia, Stata, LaTeX.

Awards and Achievements

- 2019-2023 — **Studentship**, Economic and Social Research Council +3 Studentship for PhD and Covid-19 related extension.
- 2019 — **Graduated with distinction**, University of Edinburgh.
- 2014 — **Graduated Cum Laude**, Maastricht University.
- **PREMIUM programme**, Maastricht University.
- 2013 — **MaRBLe programme**, Maastricht University.

Research Publications

Journal Articles

1. Bhattacharjee, A., Pabst, A., **Szendrei**, **T.**, & Hewings, G. J. D. (2024). NiReMS: A regional model at household level combining spatial econometrics with dynamic microsimulation. *Spatial Economic Analysis*, *19*(3), 436–461. `https://doi.org/10.1080/17421772.2024.2333978`
2. Kohns, D., & **Szendrei**, **T.** (2023). Horseshoe prior Bayesian quantile regression. *Journal of the Royal Statistical Society Series C: Applied Statistics*, *73*(1), 193–220. `https://doi.org/10.1093/jrsssc/qlad091`
3. **Szendrei**, **T.**, & Varga, K. (2023). Revisiting vulnerable growth in the Euro Area: Identifying the role of financial conditions in the distribution. *Economics Letters*, *223*, 110990. `https://doi.org/10.1016/j.econlet.2023.110990`
4. **Szendrei**, **T.**, & Varga, K. (2020). FISS–A Factor-based Index of Systemic Stress in the Financial System. *Russian Journal of Money and Finance*, *79*(1), 3–34. `https://doi.org/10.31477/rjmf.202001.03`
5. Lakos, G., & **Szendrei**, **T.** (2017). Explanations of Asset Price Bubbles. *Financial and Economic Review*, *16*(4), 122–150. `https://ideas.repec.org/a/mnb/finrev/v16y2017i4p122-150.html`

Books and Chapters

1. Ersoy, E., Li, H., Schaffer, M. E., & **Szendrei**, **T.** (2024). Stacking Regression for Time-Series, with an Application to Forecasting Quarterly US GDP Growth (N. Ngoc Thach, V. Kreinovich, D. T. Ha, & N. D. Trung, Eds.). In N. Ngoc Thach, V. Kreinovich, D. T. Ha, & N. D. Trung (Eds.), *Optimal Transport Statistics for Economics and Related Topics*. Cham, Springer Nature Switzerland. `https://doi.org/10.1007/978-3-031-35763-3_7`

Working Papers

1. **Szendrei**, **T.**, & Bhattacharjee, A. (2024). *Momentum Informed Inflation-at-Risk* [arXiv preprint arXiv:2408.12286]. `https://arxiv.org/abs/2408.12286`
2. **Szendrei**, **T.**, Bhattacharjee, A., & Schaffer, M. E. (2024a). *Fused LASSO as Non-Crossing Quantile Regression* [arXiv preprint arXiv:2403.14036]. `https://doi.org/10.48550/arXiv.2403.14036`
3. **Szendrei**, **T.**, Bhattacharjee, A., & Schaffer, M. E. (2024b). *MIDAS-QR with 2-Dimensional Structure* [arXiv preprint arXiv:2406.15157]. `https://doi.org/10.48550/arXiv.2406.15157`

4. **Szendrei, T.**, Eross, A., Wasseja, M., & Ersoy, E. (2024). *Investigating the Effect of Green Finance Initiatives on Renewable Energy Penetration in Europe* [Available at SSRN 4751835. Submitted to Applied Energy]. https://dx.doi.org/10.2139/ssrn.4751835
5. Varga, K., & **Szendrei, T.** (2024). *Non-stationary Financial Risk Factors and Macroeconomic Vulnerability for the UK* [arXiv preprint arXiv:2404.01451. Revise and Resubmit at International Review of Financial Analysis]. https://doi.org/10.48550/arXiv.2404.01451
6. Kohns, D., & **Szendrei, T.** (2021). *Shrink then Sparsify: Identifying Drivers of Tail Risk* [arXiv preprint arXiv:2107.08498. Submitted to Journal of the Royal Statistical Society Series C: Applied Statistics]. https://doi.org/10.48550/arXiv.2107.08498
7. Berki, T., & **Szendrei, T.** (2017). *The cyclical position of housing prices: A VECM approach for Hungary*. https://hdl.handle.net/10419/173448

Work in Progress

1. Bhattacharjee, A., Pabst, A., da Silva Gomes, E., Smith, R., & **Szendrei, T.** (2024). Factor model based regional indices [WIP].
2. Christev, A., Holly, S., & **Szendrei, T.** (2024). Aggregate uncertainty and firm-size growth asymmetry along the business cycle [WIP].
3. Kohns, D., & **Szendrei, T.** (2024). Joint Quantile Shrinkage: Toward Non-Crossing Bayesian Quantile Models [WIP].
4. **Szendrei, T.**, & Schaffer, M. E. (2024). Crossing penalised CAViaR [WIP].
5. Wasseja, M., Eross, A., Ersoy, E., & **Szendrei, T.** (2024). Unravelling the Spatial Risk factors of Green Growth in EU [WIP].

Policy Reports

1. Bhattacharjee, A., Pabst, A., & **Szendrei, T.** (2022). Box F: The Northern Ireland Protocol-Lost Opportunities for Northern Ireland? [Box]. National Institute of Economic & Social Research.
2. Bhattacharjee, A., & **Szendrei, T.** (2022). Box D: National Institute Regional Modelling System (NiReMS): Methodology and Updates [Box]. National Institute of Economic & Social Research.
3. Mosley, M., & **Szendrei, T.** (2022). Box D: Measuring the effect of the cost-of-living crisis on low-income households [Box]. National Institute of Economic & Social Research.
4. Bhattacharjee, A., & **Szendrei, T.** (2021). Box E: Distributional impacts of Covid-19 and potential for policy intervention [Box]. National Institute of Economic & Social Research.