

# Tibor Pál

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## Research Interests

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My research develops and applies score-driven time-varying parameter and state-space models in macroeconomics and finance, and semi-parametric volatility models using high-frequency data. I analyze and estimate latent macroeconomic variables, including the natural rate of interest and measures of uncertainty, as well as macro-financial interactions, speculative dynamics in asset markets, monetary policy transmission, and inflation distribution dynamics. I also extend structural VAR and dynamic multiple-quantile frameworks to capture nonlinear and state-dependent relationships in advanced economies.

## Education

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2022–2025	Ph.D. in Statistical Methods – Economics and Policy Analysis of Markets and Firms, University of Salerno ( <i>expected completion: Winter 2025 / Spring 2026</i> ). <i>Focus: Score-Driven Models, State-Space Models, Volatility Modeling, Dynamic multiple quantile models</i>
2024–2025	Visiting Ph.D. Student, University of Malaya. <i>Focus: Semi-Parametric Volatility Modeling</i> .
2019–2022	Ph.D. in Economics ( <i>incomplete; transferred to current program</i> ), University of Valladolid. <i>Focus: Macroeconometrics, Monetary GE Models</i> .
2021–2022	Visiting Ph.D. Student, University of Verona. <i>Completed first-year Ph.D. coursework</i> .
2017–2018	Ph.D. in Management ( <i>part-time; transferred</i> ), AGH University of Krakow.
2011–2015	M.A. in International Business (English), Krakow University of Economics. <i>Thesis: The Evolvement of the Spanish Housing Boom in the Context of EMU Membership</i> .
2005–2010	B.A. in Finance and Economics, Károly Róbert College. <i>Thesis: The U.S. Mortgage Crisis and Its Aftermath</i> .
2009	Academic Scholarship (English), University of Economics, Bydgoszcz, Poland.

## Research Projects

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- 1 **Estimating the R-Star in the US: A Score-Driven State-Space Model with Time-Varying Volatility Persistence.**  
Supervisor and co-author: Giuseppe Storti (University of Salerno). *Working paper*.  
*Keywords:* R-Star, State-Space Models, Kalman filter, Score-Driven Models.
- 2 **Score-Driven Realized Exponential GARCH Modeling with Range-Based Realized Measure of Volatility.**  
Supervisors and co-authors: Giuseppe Storti (University of Salerno), Ng Kok Haur (University of Malaya). *Advanced stage*.  
*Keywords:* Score-Driven Models, Burr Distribution, Realized Volatility.

## Publications and Working Papers

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- 2025 Pál, Tibor and Storti, Giuseppe. *Estimating the R-Star in the US: A Score-Driven State-Space Model with Time-Varying Volatility Persistence*. Working paper, July.
- 2023 Gutiérrez-Diez, Pedro J. and Pál, Tibor. *Monetary Policy Models: Lessons from the Eurozone Crisis*. Humanities and Social Sciences Communications (Nature), October.
- 2018 Pál, Tibor. *The Effects of Monetary Policy on House Prices in Spain: The Role of Economic and Monetary Union Membership in the Housing Bubble*. Central European Review of Economics and Management, June.

## Teaching Experience

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- 2023 Econometrics (MSc) – University of Verona (English)
- 2022 Macroeconomics (BSc) – AGH University of Krakow (English)

## Presentations

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- 2025 *Estimating the R-Star in the US: A Score-Driven State-Space Model with Time-Varying Volatility Persistence*. December: World Finance Banking Symposium, Brno. July: Int. Society for the Advancement of Financial Economics (ISAFE), Beijing. May: Seminar at the University of Malaya.
- 2024 *Estimating the Natural Rate of Interest in the US: An Accelerating Score-Driven State-Space Model*. August: 7th International Conference on Econometrics and Statistics (EcoSta), Beijing. July: Int. Society for the Advancement of Financial Economics (ISAFE), Pattaya.
- 2022 *The Real Effect of the (De)Leverage Pressure*. Brownbag Seminar, University of Verona.
- 2022 *Rethinking Monetary Policy Models: Lessons from the 2008–2018 Crisis in the Eurozone*. Seminar at the University of Windsor (online).
- 2019 *A Debt Deflation Stylized Model: The Effects of Deleveraging in the Eurozone*. 2nd International Conference on Modern Tendency in Social Science, Singapore.
- 2018 *The Real Effects of Deleveraging in the Eurozone*. 32nd Conference of International Applied Economics, Huelva.
- 2018 *The Credit View on the Output Gap and the Concept of the Non-Accelerating Inflation Rate of Credit Expansion (NAIRCE)*. 15th International Conference on Developments in Economic Theory and Policy, Bilbao.
- 2017 *The Effects of Monetary Policy on House Prices in Spain: The Role of the European Economic and Monetary Union Membership in the Latest Housing Bubble*. Fifth International Conference, WSB University, Wroclaw.

## Further Trainings and Attendances

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- 2023 Methods in Time Series Econometrics, Bertinoro. *Summer school by Francesco Bianchi and Karel Mertens*.
- 2023 Financial Time Series and High-Frequency Econometrics, Perugia. *Postgraduate course by Massimiliano Caporin, Walter Distaso, among others*.

- 2023** Tenth Italian Congress of Econometrics and Empirical Economics, Cagliari.
- 2023** Financial Time Series and Tail Risk Forecasting with Python, University of Salerno. *Workshop by Richard Gerlach.*
- 2022** Padova Macro Talks, University of Padova. *Workshop organized by Efrem Castelnuovo.*

## Work Experience

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- 2018–2024** Omni Calculator (part-time). *Financial Specialist, Reviewer, and Advisor.*
- 2014–2017** Shell BSC. *Financial Analyst.*
- 2010–2014** IBM BTO. *GL Accountant.*

## Skills

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**Technical:** MATLAB, R, Stata, Python, JavaScript.

**Languages:** English (C2), Spanish (B1), Italian (A1), Polish (A1), Chinese (A1), Hungarian (native).