

# PROF.DR. STEPHAN SMEEKES

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Professor of Econometrics  
Maastricht University  
School of Business and Economics  
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LAST UPDATE: June 18, 2024

## PROFESSIONAL EXPERIENCE

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- 2024–present    **Professor of Econometrics**  
Department of Quantitative Economics, Maastricht University
- 2015–2024    **Associate Professor**  
Department of Quantitative Economics, Maastricht University
- 2012–2015    **Assistant Professor**  
Department of Quantitative Economics, Maastricht University
- 2009–2012    **Postdoctoral Researcher**  
Department of Quantitative Economics, Maastricht University

## EDUCATION

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- 2004–2009    **Ph.D. in Economics, Maastricht University**  
*Thesis title:* Bootstrapping Nonstationary Time Series  
*Supervisors:* Prof.dr. Jean-Pierre Urbain and Prof.dr. Franz C. Palm  
Ph.D. thesis has been awarded the *Christiaan Huygens Science Award 2012*
- 2000–2004    **BSc & MSc in Econometrics and Operations Research, Maastricht University**  
Graduated with distinction (*cum laude*).

## RESEARCH INTERESTS

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Bootstrap and Resampling Methods, Time Series Econometrics, High-Dimensional Statistics, Climate Econometrics, Macro-Econometrics, Panel Data, Nonparametric Statistics, Official Statistics.

## JOURNAL ARTICLES

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- Beutner, E., A. Heinemann and S. Smeeke (2024). [A residual bootstrap for conditional Value-at-Risk](#). *Journal of Econometrics* 238 (2), 105554.
- Adamek, R., S. Smeeke and I. Wilms (2023). [Local projection inference in high dimensions](#). Forthcoming in *Econometrics Journal*.
- Smeeke, S. and I. Wilms (2023). [bootUR: An R Package for Bootstrap Unit Root Tests](#). *Journal of Statistical Software* 106 (12), 1–39.
- Adamek, R., S. Smeeke and I. Wilms (2023). [Lasso inference for high-dimensional time series](#). *Journal of Econometrics* 235 (2), 1114–1143.
- Beutner, E., Y. Lin, and S. Smeeke (2023). [GLS estimation and confidence sets for the date of a single break in models with trends](#). *Econometric Reviews* 42 (2), 195–219.
- Hecq, A., L. Margaritella and S. Smeeke (2023). [Granger causality testing in high-dimensional VARs: a post-double-selection procedure](#). *Journal of Financial Econometrics* 21 (3), 915–958.
- Beutner, E., A. Heinemann and S. Smeeke (2021). [A justification of conditional confidence intervals](#). *Electronic Journal of Statistics* 15 (1), 2517–2565.

- Smeekees, S. and E. Wijler (2021). [An automated approach towards sparse single-equation cointegration modelling](#). *Journal of Econometrics* 221 (1), 247–276.
- Schiavoni, C., F. C. Palm, S. Smeekees and J. van den Brakel (2021). [A dynamic factor model approach to incorporate Big Data in state space models for official statistics](#). *Journal of the Royal Statistical Society - Series A* 184 (1), 324–353.
- Friedrich, M., E. Beutner, H. Reuvers, S. Smeekees, J.-P. Urbain, W. Bader, B. Franco, B. Lejeune and E. Mahieu (2020). [A statistical analysis of time trends in atmospheric ethane](#). *Climatic Change*, 162 (1), 105–125.
- Friedrich, M., S. Smeekees and J.-P. Urbain (2020). [Autoregressive wild bootstrap inference for nonparametric trends](#). *Journal of Econometrics*, 214 (1), 81–109.
- S. Smeekees and J. Westerlund (2019). [Robust block bootstrap panel predictability tests](#). *Econometric Reviews* 38 (9), 1089–1107.
- Smeekees, S. and E. Wijler (2018). [Macroeconomic forecasting using penalized regression methods](#). *International Journal of Forecasting* 34 (3), 408–430.
- Hurlin, C., S. Laurent, R. Quaedvlieg and S. Smeekees (2017). [Risk measure inference](#). *Journal of Business and Economic Statistics* 35 (4), 499–512.
- Götz, T. B., A. Hecq and S. Smeekees (2016). [Testing for Granger causality in large mixed-frequency VARs](#). *Journal of Econometrics* 193 (2), 418–432.
- Smeekees, S. (2015). [Bootstrap sequential tests to determine the order of integration of individual units in a time series panel](#). *Journal of Time Series Analysis* 36 (3), 398–415.
- Cavaliere, G., P. C. B. Phillips, S. Smeekees and A. M. R. Taylor (2015). [Lag length selection for unit root tests in the presence of nonstationary volatility](#). *Econometric Reviews* 34 (4), 512–536.
- Smeekees, S. and J.-P. Urbain (2014). [On the applicability of the sieve bootstrap in time series panels](#). *Oxford Bulletin of Economics and Statistics* 76 (1), 139–151.
- Smeekees, S. (2013). [Detrending bootstrap unit root tests](#). *Econometric Reviews* 32 (8), 869–891.
- Smeekees, S. and A. M. R. Taylor (2012). [Bootstrap union tests for unit roots in the presence of nonstationary volatility](#). *Econometric Theory* 28 (2), 422–456.
- Palm, F. C., S. Smeekees and J.-P. Urbain (2011). [Cross-sectional dependence robust block bootstrap panel unit root tests](#). *Journal of Econometrics* 163 (1), 85–104.
- Palm, F. C., S. Smeekees and J.-P. Urbain (2010). [A sieve bootstrap test for cointegration in a conditional error correction model](#). *Econometric Theory* 26 (3), 647–681.
- Palm, F. C., S. Smeekees and J.-P. Urbain (2008). [Bootstrap unit root tests: Comparison and extensions](#). *Journal of Time Series Analysis* 29 (2), 371–401.

#### BOOK CHAPTERS

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- Smeekees, S. and E. Wijler (2020). [Unit Roots and Cointegration](#). In P. Fuleky (Ed.), *Macroeconomic Forecasting in the Era of Big Data*, Chapter 17 pp. 541–584. *Advanced Studies in Theoretical and Applied Econometrics*, vol. 52. Springer.

#### WORKING PAPERS

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- Friedrich, M., L. Margaritella and S. Smeekees (2023). [High-dimensional causality for climatic attribution](#). arXiv e-print 2302.03996.
- Hecq, A., L. Margaritella and S. Smeekees (2023). [Inference in non-stationary high-dimensional VARs](#). arXiv e-print 2302.01434.
- Adamek, R., S. Smeekees and I. Wilms (2023). [Sparse high-dimensional vector autoregressive bootstrap](#). arXiv e-print 2302.01233.

- Jassem, A., L. Lieb, R. J. Almeida, N. Bastürk and S. Smeekes (2021). [Min\(d\)ing the President: A text analytic approach to measuring tax news](#). arXiv e-print 2104.03261.
- Schiavoni, C., S. J. Koopman, F. C. Palm, S. Smeekes and J. van den Brakel (2021). [Time-varying state correlations in state space models and their estimation via indirect inference](#). Tinbergen Institute Discussion Paper 2021-020/III.
- Lieb, L. and S. Smeekes (2019). [Inference for impulse responses under model uncertainty](#). arXiv e-print 1709.09583.
- Beutner, E., A. Heinemann and S. Smeekes (2019). [A general framework for prediction in time series models](#). arXiv e-print 1902.01622.
- Smeekes, S. and J.-P. Urbain (2014). [A multivariate invariance principle for modified wild bootstrap methods with an application to unit root testing](#). GSBE Research Memorandum RM/14/008, Maastricht University.

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#### SOFTWARE

- bootUR**: R package for bootstrap unit root tests, with I. Wilms. Available on [CRAN](#) and [GitHub](#).
- specs**: R package corresponding to the paper Smeekes and Wijler (2021, *JoE*), maintained by E. Wijler. Available on [CRAN](#) and [GitHub](#).
- desla**: R package for desparsified lasso in time series, maintained by R. Adamek. Available on [CRAN](#) and [GitHub](#).
- HDGCvar**: R package for Granger causality testing in high-dimensional vector autoregressive models, maintained by L. Margaritella. Available on [GitHub](#).
- Various codes for R, Gauss and Matlab accessible via [www.stephansmeekes.nl/code](http://www.stephansmeekes.nl/code).

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#### GRANTS, HONORS AND AWARDS

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|-----------|--|
| 2019–2024 | Elected as member of <i>De Jonge Akademie</i> (Dutch Young Academy).   |
| 2017      | Maastricht University, School of Business and Economics <i>Excellent Undergraduate Educator</i> Award.   |
| 2017–2022 | Netherlands Organization for Scientific Research (NWO) MaGW Vidi grant for project <i>Inference for High-Dimensional Econometric Time Series</i> .   |
| 2015      | Among 4 nominees for <i>Pierson Medaille 2015</i> (awarded by the KVS to a young promising researcher in economics or finance employed at a Dutch university who defended after 2007).                           |
| 2015–2019 | Netherlands Organization for Scientific Research (NWO) MaGW Research Talent grant for Ph.D. project <i>Bootstrap Inference for Risk Measures</i> , with E. Beutner, F. C. Palm and A. Heinemann.                 |
| 2012      | Maastricht University, School of Business and Economics <i>Excellent Young Scholar</i> Award.  |
| 2012      | <i>Christiaan Huygens wetenschapsprijs</i> (awarded to best PhD thesis in econometrics / actuarial sciences defended at a Dutch university between 2008 and 2012).   |
| 2013–2016 | Netherlands Organization for Scientific Research (NWO) MaGW Veni grant for project <i>Bootstrap Methods for Time-Varying Processes</i> .   |
| 2011      | Nominated with honorable mention (among top 4) for <i>KVS Penning 2011</i> (awarded to best PhD thesis in economics defended at a Dutch university between 2008 and 2011).                                       |
| 2011–2018 | GSBE Research Fellow, Maastricht University.   |
| 2010–2013 | Netherlands Organization for Scientific Research (NWO) Open Competition MaGW grant for post-doc project <i>Bootstrap Method for Nonstationary Time Series and Panel Data</i> , with J.-P. Urbain and F. C. Palm. |
| 2006–2009 | Netherlands Organization for Scientific Research (NWO) Open Competition MaGW grant for Ph.D. project <i>Bootstrapping Nonstationary Time Series</i> , with J.-P. Urbain and F. C. Palm.                          |

## PHD SUPERVISION

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- 2023–2027 Marie Corillon, *Aggregation Schemes for High-Dimensional Time Series*. (Promotor)
- 2023–2027 Enrico Wegner, *Causality in non-linear macro-econometrics*. (Promotor)
- 2018–2022 Adam Jassem, *Enrichment of economic and marketing models with unstructured text data*. (Promotor, funded by D3M Research Theme)
- Defense: Robert Adamek, *Lasso-Based Inference for High-Dimensional Time Series*. (Promotor, funded by NWO Vidi grant)  
Dec 5, 2022
- Defense: Luca Margaritella, *Inference in High-Dimensional Time Series Models*. (Promotor, funded by NWO Vidi grant)  
Nov 8, 2021
- Defense: Caterina Schiavoni, *Multivariate State Space Methods for Official Statistics and Climate Modelling*. (Co-promotor, funded by Statistics Netherlands)  
Nov 4, 2021
- Defense: Yicong Lin, *Essays on Nonstationary Nonlinear Models*. (Promotor)  
Oct 6, 2021
- Defense: Etienne Wijler, *High-dimensional time series analysis: unit roots, cointegration and forecasting*. (Promotor)  
Jan 14, 2021
- Defense: Marina Friedrich, *Bootstrap inference for environmental trends*. (Co-promotor)  
Dec 10, 2020
- Defense: Alexander Heinemann, *Bootstrap Inference for Risk Measures*. (Co-promotor, funded by NWO Research Talent grant)  
Jun 20, 2019
- Defense: Hanno Reuvers, *Vector Autoregressions: Lag Order Uncertainty and Least Absolute Deviations*. (Co-promotor)  
May 14, 2018

## PHD ASSESSMENT COMMITTEES

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- Dec 20, 2022 Elisa Voisin, *Modelling and Forecasting Economic Time Series with Mixed Causal-Noncausal Models*.
- Oct 21, 2019 Rasmus Lönn, *High-dimensional asset pricing and portfolio optimization*.
- Jun 21, 2018 Dominik Blatt, *Advancements in Structural Break Testing*.
- Dec 6, 2017 Sean Telg, *Mixed Causal-Noncausal Models; Identification, Estimation and Inference*.
- Mar 22, 2017 Artem Duplinskiy, *Persistency in Dynamic Econometric Models*.
- May 12, 2016 Lennart Freitag, *Credit Rating Agencies and the European Sovereign Debt Crisis*.
- May 11, 2016 Oksana Balabay, *Time Series Modelling in Repeatedly Conducted Sample Surveys*.
- Feb 5, 2016 Dennis Türk, *Electrified – Essays on Trading and Risk Management in Electricity Markets*.
- Jan 21, 2015 Hande Karabiyik, *Estimation and Inference in Cross-Sectionally Dependent Panel Data Models*.
- Sep 10, 2014 Thomas Götz, *Modeling Non-stationary and Stationary Mixed Frequency Time Series*.

## TEACHING

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- 2010 Awarded Dutch teaching qualification BKO.
- 2010–present Supervised approx. 55 MSc theses and 45 BSc theses as first (co-)supervisor.
- 2016–present **Big Data Econometrics**  
MSc Econometrics and Operations Research / MSc Economic and Financial Research  
Course Designer, Coordinator and Lecturer
- 2006–present **Topics in Computational Econometrics**  
MSc Econometrics and Operations Research / MSc Economic and Financial Research  
Course Coordinator and Lecturer

2022–present	<b>Empirical Analysis I</b> MSc Business Research <i>Joint Coordinator and Lecturer</i>
2017–present	<b>Writing a Referee Report</b> MSc Economic and Financial Research <i>Course Coordinator</i>
2010–present	<b>Mathematical Statistics</b> BSc Econometrics and Operations Research <i>Course Coordinator and Lecturer</i>
2016	<b>Time Series Methods and Dynamic Econometrics</b> MSc Econometrics and Operations Research / MSc Economic and Financial Research <i>Joint Course Coordinator and Lecturer</i>
2005–2009	<b>Macroeconomics</b> BSc Econometrics and Operations Research <i>Teaching Assistant / Tutor</i>
2007–2009	<b>Finance</b> BSc Econometrics and Operations Research <i>Teaching Assistant / Tutor</i>
2004–2005	<b>Quantitative Methods I</b> BSc International Business <i>Teaching Assistant / Tutor</i>

#### MANAGEMENT TASKS

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2024–present	Member of the Management Team, Department of Quantitative Economics.
2020–present	Programme Leader MSc Econometrics and Operations Research.
2017–present	Member of Board of Admission MSc Economic and Financial Research.
2016–present	Member of Board of Admission MSc Econometrics and Operations Research.
2017–2020	Deputy Theme Leader of the GSBE Research Theme on <a href="#">Data-Driven Decision Making (D<sup>3</sup>M)</a> , Maastricht University.
2016–2019	Member of Steering Committee <a href="#">Institute of Data Science</a> , Maastricht University.

#### CONFERENCE ORGANIZATION & COMMITTEE MEMBERSHIP

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2024	Member of the UM–MUMC+ ‘Moonshot’ collaboration think-tank, Maastricht.
2024	Chair of Local Organizing Committee <a href="#">Netherlands Econometric Study Group 2024 conference (NESG 2024)</a> , Maastricht.
2024	Member of Jury for the Christiaan Huygens Science Award.
2023	Member of Scientific Committee <a href="#">7th conference on Econometric Models of Climate Change (EMCC-VII)</a> , Amsterdam.
2022-2023	Member of Assessment Committee NWO SGW Vici Grants 2022, panel Social Sciences.
2022	Chair of Local Organizing Committee <a href="#">2nd Workshop on Dimensionality Reduction and Inference in High-Dimensional Time Series</a> , Maastricht.
2022	Chair of Local Organizing Committee <a href="#">Workshop on Environmental Time Series Analysis</a> , Maastricht.
2021	Chair of Local Organizing Committee <a href="#">Workshop on Dimensionality Reduction and Inference in High-Dimensional Time Series</a> , Maastricht.

- 2013–present Member of Programme Committee [Netherlands Econometric Study Group \(NESG\)](#) annual conference.
- 2020-2021 Member of Jury for KNAW Descartes-Huygensprijs.
- 2020-2021 Member of Jury for KNAW Onderwijsprijs (Education Award).
- 2019-2020 Member of Assessment Committee NWO SGW Vidi Grants 2019, panel economics and business.
- 2019 Invited as Member of Jury for Econometric Game, Amsterdam.
- 2018 Member of Jury for Research Competition hosted by Institute of Data Science, Maastricht University.
- 2017 Session Organizer at [11th International Conference on Computational and Financial Econometrics \(CFE 2017\)](#), London.
- 2017 Member of Local Organizing Committee [European Seminar on Bayesian Econometrics 2017 \(ESOB 2017\)](#), Maastricht.
- 2016 Chair of Local Organizing Committee *2nd Maastricht Workshop on Advances in Quantitative Economics*, Maastricht.
- 2015 Session Organizer at [9th International Conference on Computational and Financial Econometrics \(CFE 2015\)](#), London.
- 2015 Chair of Local Organizing Committee [Netherlands Econometric Study Group 2015 conference \(NESG 2015\)](#), Maastricht.
- 2012 Member of Programme Committee [\(EC\)2 Conference 2012](#), Maastricht.

#### CONFERENCE AND SEMINAR PRESENTATIONS

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- 2023 Virtual Time Series Seminar (*invited*); Econometrics and Business Statistics Seminar, Aarhus University (*invited*); FEM Seminar, Lund University (*invited*); 7th conference on Econometric Models of Climate Change (EMCC-VII), Amsterdam.
- 2022 Netherlands Econometric Study Group Annual Conference, Groningen.
- 2021 Econometrics Seminar, University of Nottingham (*invited*); International Association for Applied Econometrics 2021 Conference; Economics Seminar, University of Duisburg-Essen (*invited*); Riccardo Faini CEIS Webinar, Center for Economic and International Studies, University of Rome Tor-Vergata (*invited*).
- 2020 31th (EC)2 Conference; Bernoulli-IMS World Symposium; Econometric Society World Congress.
- 2017 11th International Conference on Computational and Financial Econometrics (CFE 2017), London (*invited*).
- 2015 9th International Conference on Computational and Financial Econometrics (CFE 2015), London (*invited*); European Meeting of Statistics (EMS 2015), Amsterdam.
- 2014 8th International Conference on Computational and Financial Econometrics (CFE 2014), Pisa; CentER Econometrics and Statistics Seminar, Tilburg University (*invited*).
- 2013 Workshop on Bootstrap Methods for Time Series, Copenhagen, 2013 (*invited*); Netherlands Econometric Study Group Annual Conference, Amsterdam, 2013.
- 2012 (EC)2 Conference, Maastricht, 2012; 18th International Panel Data Conference, Paris, 2012.
- 2011 Tinbergen Econometrics Seminar, Amsterdam (*invited*); Statistische Woche, Leipzig (*invited*); 10th OxMetrics User Conference, Maastricht.
- 2010 16th International Conference on Panel Data, Amsterdam; Netherlands Econometric Study Group Annual Conference, Leuven; NAKE Research Day, Utrecht.
- 2009 Econometric Society European Meeting, Barcelona; Joint CORE-STAT Econometrics seminar, Center of Operations Research and Econometrics (CORE), Université catholique de Louvain, Louvain-la-Neuve (*invited*).

- 2008 International Conference on Factor Structures for Panel and Multivariate Time Series Data, Maastricht; Econometric Society European Meeting, Milan; Workshop on Bootstrap and Time Series, Kaiserslautern; Inference and Tests in Econometrics - A Tribute to Russell Davidson, Marseille.
- 2007 First Meeting of the Methods in International Finance Network, Maastricht, 2007.
- 2005 Econometric Society World Congress, London.

#### REFEREE ACTIVITY

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Annals of Economics and Statistics, Communications in Statistics – Theory and Methods, Communications in Statistics – Simulation and Computation, Computational Statistics and Data Analysis, Econometrics, Econometrics and Statistics, Econometric Reviews, Econometric Theory, Economic Modeling, Empirical Economics, International Journal of Forecasting, Journal of Applied Econometrics, Journal of Business and Economic Statistics, Journal of Econometrics, Journal of Empirical Finance, Journal of Multivariate Analysis, Journal of Applied Statistics, Journal of Time Series Analysis, Macroeconomic Dynamics, Oxford Bulletin of Economics and Statistics, Scandinavian Journal of Statistics, Statistica Sinica, Statistical Methodology, Statistics, Statistics & Probability Letters, TEST.

#### EXTERNAL TEACHING & CONSULTANCY

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- 2021 Joint course developer and teacher of BlueCourses online course [Time Series Analysis and Forecasting](#).
- 2019 Joint course developer and teacher of internal staff training “Introduction to R”.
- 2018 Joint course developer and teacher of module “Time Series” in [BISS Certified Data Science](#) executive education programme.
- 2015 Project Leader of *Forecasting Commodity Prices* in collaboration with OCI Fertilizers.

#### MEDIA APPEARANCES AND OUTREACH

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- 2023– Annual contributions to the popular science website [Beste ID](#).
- 2021 *Talking Business and Economics* video [How to Make Sense of Complex Datasets](#).
- 2020 UMIO *Afternoon Tea & Talent* session (with Etienne Wijler): [How Smart Is Your Algorithm?](#) with accompanying article [A Taste of Big Data Analysis: Sour Milk or Luxury Ice Cream?](#)
- 2020 Dutch national TV show *Knappe Koppen*, talk about economic forecasting in the episode [When will the next economic crisis take place?](#).
- 2019 Interview in university newspaper *Observant*: [“Fight against nonsense statistics”](#).