Prof.dr. Stephan Smeekes

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Professional Experience

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

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

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

Journal Articles

Schiavoni, C., S. J. Koopman, F. C. Palm, S. Smeekes and J. van den Brakel (2025). Time-varying correlations in multivariate unobserved components time series models. *Journal of the Royal Statistical Society - Series A*, forthcoming.

Lieb, L., A. Jassem, R. J. Almeida, N. Bastürk and S. Smeekes (2025). Min(d)ing the President: A text analytic approach to measuring tax news. *American Economic Journal: Macroeconomics* 17 (2), 285–314.

Adamek, R., S. Smeekes and I. Wilms (2024). Local projection inference in high dimensions. *Econometrics Journal* 27 (3), 323–342.

Beutner, E., A. Heinemann and S. Smeekes (2024). A residual bootstrap for conditional Value-at-Risk. *Journal of Econometrics* 238 (2), 105554.

Smeekes, 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. Smeekes and I. Wilms (2023). Lasso inference for high-dimensional time series. *Journal of Econometrics* 235 (2), 1114–1143.

Beutner, E., Y. Lin, and S. Smeekes (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. Smeekes (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. Smeekes (2021). A justification of conditional confidence intervals. *Electronic Journal of Statistics* 15 (1), 2517–2565.

Smeekes, 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. Smeekes 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. Smeekes, 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. Smeekes and J.-P. Urbain (2020). Autoregressive wild bootstrap inference for nonparametric trends. *Journal of Econometrics*, 214 (1), 81–109.

S. Smeekes and J. Westerlund (2019). Robust block bootstrap panel predictability tests. *Econometric Reviews* 38 (9), 1089–1107.

Smeekes, 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. Smeekes (2017). Risk measure inference. *Journal of Business and Economic Statistics* 35 (4), 499–512.

Götz, T. B., A. Hecq and S. Smeekes (2016). Testing for Granger causality in large mixed-frequency VARs. *Journal of Econometrics* 193 (2), 418–432.

Smeekes, 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. Smeekes 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.

Smeekes, 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.

Smeekes, S (2013). Detrending bootstrap unit root tests. *Econometric Reviews* 32 (8), 869–891.

Smeekes, 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. Smeekes 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. Smeekes 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. Smeekes and J.-P. Urbain (2008). Bootstrap unit root tests: Comparison and extensions. *Journal of Time Series Analysis* 29 (2), 371–401.

Book Chapters

Smeekes, 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

Haimerl, P., S. Smeekes and I. Wilms, Ines (2025). Estimation of Latent Group Structures in Time-Varying Panel Data Models. arXiv e-print 2503.23165.

Wegner, E., L. Lieb, S. Smeekes and I. Wilms, Ines (2024). Transmission channel analysis in dynamic models. arXiv e-print 2405.18987.

Friedrich, M., L. Margaritella and S. Smeekes (2023). High-dimensional causality for climatic attribution. arXiv e-print 2302.03996.

Hecq, A., L. Margaritella and S. Smeekes (2023). Inference in non-stationary high-dimensional VARs. arXiv e-print 2302.01434.

Adamek, R., S. Smeekes and I. Wilms (2023). Sparse high-dimensional vector autoregressive bootstrap. arXiv e-print 2302.01233.

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.

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.

PAGFL: R package for estimating latent group structures in panel data, maintained by P. Haimerl. Available on CRAN and GitHub.

TransmissionChannelAnalysis.jl: Julia package for estimating dynamic transmission channels, maintained by E. Wegner. Available on GitHub.

Various codes for R, Julia, Python, Gauss and Matlab accessible via www.stephansmeekes.nl.

Grants, Honors and Awards

2019–2024	Elected as member of *De Jonge Akademie* (Dutch Young Academy).
2017	Maastricht University, School of Business and Economics *Excellent Undergraduate Educator* Award.
2017–2022	Netherlands Organization for Scientific Research (NWO) MaGW Vidi grant for project *Inference for High-Dimensional Econometric Time Series*.
2015	Among 4 nominees for *Pierson Medaille 2015* (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 *Bootstrap Inference for Risk Measures*, with E. Beutner, F. C. Palm and A. Heinemann.
2012	Maastricht University, School of Business and Economics *Excellent Young Scholar* Award.
2012	*Christiaan Huygens wetenschapsprijs* (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 *Bootstrap Methods for Time-Varying Processes*.

2011 Nominated with honorable mention (among top 4) for *KVS Penning 2011* (awarded to best PhD thesis in economics defended at a Dutch university between 2008 and 2011).

2011–present GSBE Research Fellow, Maastricht University.

2010–2013 Netherlands Organization for Scientific Research (NWO) Open Competition MaGW grant for post-doc project *Bootstrap Method for Nonstationary Time Series and Panel Data*, with J.-P. Urbain and F. C. Palm.

2006–2009 Netherlands Organization for Scientific Research (NWO) Open Competition MaGW grant for Ph.D. project *Bootstrapping Nonstationary Time Series*, with J.-P. Urbain and F. C. Palm.

PhD Supervision

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: Dec 5, 2022 Robert Adamek, *Lasso-Based Inference for High-Dimensional Time Series*. (Promotor, funded by NWO Vidi grant)

Defense: Nov 8, 2021 Luca Margaritella, *Inference in High-Dimensional Time Series Models*. (Promotor, funded by NWO Vidi grant)

Defense: Nov 4, 2021 Caterina Schiavoni, *Multivariate State Space Methods for Official Statistics and Climate Modelling*. (Co-promotor, funded by Statistics Netherlands)

Defense: Oct 6, 2021 Yicong Lin, *Essays on Nonstationary Nonlinear Models*. (Promotor)

Defense: Jan 14, 2021 Etienne Wijler, *High-dimensional time series analysis: unit roots, cointegration and forecasting*. (Promotor)

Defense: Dec 10, 2020 Marina Friedrich, *Bootstrap inference for environmental trends*. (Co-promotor)

Defense: Jun 20, 2019 Alexander Heinemann, *Bootstrap Inference for Risk Measures*. (Co-promotor, funded by NWO Research Talent grant)

Defense: May 14, 2018 Hanno Reuvers, *Vector Autoregressions: Lag Order Uncertainty and Least Absolute Deviations*. (Co-promotor)

PhD Assessment Committees

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

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

Management & Committees

2025–present	Member of Disability Inclusion Group, Maastricht University.
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.
2013–present	Member of Programme Committee Netherlands Econometric Study Group (NESG) annual conference.
2024	Member of the UM–MUMC+ 'Moonshot' collaboration think-tank, Maastricht.
2024	Chair of Local Organizing Committee Netherlands Econometric Study Group 2024 conference (NESG 2024), Maastricht.
2024	Member of Jury for the Christiaan Huygens Science Award.
2023	Member of Scientific Committee 7th conference on Econometric Models of Climate Change (EMCC-VII), Amsterdam.

2022-2023	Member of Assessment Committee NWO SGW Vici Grants 2022, panel Social Sciences.
2022	Chair of Local Organizing Committee 2nd Workshop on Dimensionality Reduction and Inference in High-Dimensional Time Series, Maastricht.
2022	Chair of Local Organizing Committee Workshop on Environmental Time Series Analysis, Maastricht.
2021	Chair of Local Organizing Committee Workshop on Dimensionality Reduction and Inference in High-Dimensional Time Series, Maastricht.
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.
2017–2020	Deputy Theme Leader of the GSBE Research Theme on Data-Driven Decision Making (D^3M), Maastricht University.
2019	Invited as Member of Jury for Econometric Game, Amsterdam.
2016–2019	Member of Steering Committee Institute of Data Science, Maastricht University.
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 (ESOBE 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

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

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

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

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".