Matei Demetrescu, prof. dr. dr.

Born on August 16th, 1976, in Bucharest, Romania

Affiliation

TU Dortmund University

Department of Statistics

Contact

Post: TU Dortmund, Department of Statistics, 44221 Dortmund

Tel. +49 (0) 231 755-3125 , Fax: +49 (0) 231 755-5284

E-mail: mdeme@statistik.tu-dortmund.de

www: https://econstat.statistik.tu-dortmund.de

Positions held

since May, 2022	Professor of econometrics and statistics at the TU Dortmund University
2014–2022	Professor of statistics and applied econometrics at the University of Kiel
2010–2014	Professor of econometrics (non-tenured) at the University of Bonn (Hausdorff Center for Mathematics & Department of Economics)
2008–2010	Junior professor of applied econometrics at the Goethe University in Frankfurt
2007–2008	Max Weber post-doc fellow at the European University Institute in Florence
2006–2007	Post-doc researcher at the Goethe University in Frankfurt, Chair for Statistics and Econometric Methods
2001–2006	Research and teaching assistant at the Technical University Darmstadt and at the Goethe University Frankfurt

Degrees

2009	PhD in Industrial Engineering at the “Politehnica” University Bucharest (supervised by Hans-Dieter Heike)
2007	Max Weber post-doc fellowship at the European University Institute, Florence
2005	PhD in Economics at the Goethe University Frankfurt (supervised by Uwe Hassler)
2000	Diploma in Engineering and Business Administration at the “Politehnica” University, Bucharest (best of my class)
1998	Scholarship of the German Academic Exchange Service (DAAD) for one year at Trier University

Areas of research

Forecasting	Financial data, Predictive modelling, Forecast comparisons
Complex data	Large-N large-T panel data, Cross-unit dependence, Panel quantile regressions

Research projects / Grants

2024-2028 **DFG-funded:** Project Leader in CRC/TRR 391 (*Spatio-temporal Statistics for the Transition of Energy and Transport*), projects A06 (*Forecasting methods for spatio-temporal data: robust evaluation and inference*) jointly with Christoph Hanck (Duisburg-Essen), and C03 (*Monitoring of Germany's mobility transition: data and methods*) jointly with Manuel Frondel and Colin Vance (RWI Essen).

2024-2026 **DFG-funded:** *Predictive Regressions for Measures of Systemic Risk*, jointly with Yannick Hoga (Duisburg-Essen).

2016-2018 **DFG-funded:** *Time-varying dynamics in panel data sets with stochastic trends*, jointly with Christoph Hanck (Duisburg-Essen).

2014-2016 **DFG-funded:** *Time-varying volatility in panel data sets with stochastic trends*, jointly with Christoph Hanck (Duisburg-Essen).

2012-2015 **DFG-funded:** *Approximation und Aggregation bei der Modellierung und Vorhersage persistenter Zeitreihen*, jointly with Uwe Hassler (Frankfurt).

Publications

forthcoming Demetrescu, M. and M. Hosseinkouchack: Partial Sums of Almost Overdifferenced, Near-Stationary Processes with Time-Varying Properties; ***Journal of Time Series Analysis***

2026 Demetrescu, M., C. Hanck and R. Kruse-Becher: Robust Fixed-b Inference in the Presence of Time-Varying Volatility; ***Econometrics and Statistics*** 37, 154–173

2025 Demetrescu, M., M. Frondel, L. Tomberg and C. Vance: Fixed Effects, Lagged Dependent Variables, and Bracketing: Cautionary Remarks; ***Political Analysis*** 33 (4), 378–392

Demetrescu, M., P. M. M. Rodrigues and A. M. R. Taylor: Predictive Quantile Regressions with Persistent and Heteroskedastic Predictors: A powerful 2SLS testing approach; ***Journal of Econometrics*** 249 (B), article 106002

Demetrescu, M. and R. Kruse-Becher: Is U.S. Real Output Growth Non-Normal? A tale of time-varying location and scale; ***Journal of Economic Dynamics and Control*** 171, article 105032

Demetrescu, M. and B. Hillmann: Gaussian Inference in Predictive Regressions for Stock Returns; ***Journal of Financial Econometrics*** 23 (2), article nbaf004

Demetrescu, M. and C. Roling: Testing the Predictive Ability of Possibly Persistent Variables under Asymmetric Loss; ***Econometrics and Statistics*** 33, 80–104

2024 Demetrescu, M. and N. Salish: (Structural) VAR Models with Ignored Changes in Mean and Volatility; ***International Journal of Forecasting*** 40 (2), 840–854

2023 Hoga, Y. and M. Demetrescu: Monitoring Value-at-Risk and Expected Shortfall Forecasts; ***Management Science*** 69 (5), 2954–2971

Demetrescu, M., I. Georgiev, P. M. M. Rodrigues and A. M. R. Taylor: Extensions to IVX Methods of Inference for Return Predictability; ***Journal of Econometrics*** 237 (2), article 105271

Demetrescu, M., P. M. M. Rodrigues and A. M. R. Taylor: Transformed Regression-Based Long-Horizon Predictability Tests; ***Journal of Econometrics*** 237 (2), article 105316

2022 Demetrescu, M., I. Georgiev, P. M. M. Rodrigues and A. M. R. Taylor: Testing for Episodic Predictability in Stock Returns; ***Journal of Econometrics*** 227 (1), 85–113

Demetrescu, M. and B. Hillmann: Nonlinear Predictability of Stock Returns? Parametric vs. nonparametric inference in predictive regressions; ***Journal of Business & Economic Statistics*** 40 (1), 382–397

Demetrescu, M., C. Hanck and R. Kruse-Becher: Robust Inference under Time-Varying Volatility: A real-time evaluation of professional forecasters; ***Journal of Applied Econometrics*** 37 (5), 1010–1030

Demetrescu, M. and M. Hosseinkouchack: Autoregressive Spectral Estimates under Ignored Changes in the Mean; ***Journal of Time Series Analysis*** 43 (2), 329–340

Demetrescu, M. and P. M. M. Rodrigues: Residual-Augmented IVX Predictive Regression; ***Journal of Econometrics*** 227 (2), 429–460

Demetrescu, M., V. Kusin and N. Salish: Regression-Based Fractional Cointegration Testing under Estimated Degree of Integration; ***Economic Modelling*** 108, Article 105694

2021 Demetrescu, M. and M. Hosseinkouchack: Finite-Sample Size Control of IVX-based Tests in Predictive Regressions; ***Econometric Theory*** 37 (4), 769–793

Demetrescu, M., C. Roling and A. Titova: Re-Evaluating the Prudence of Economic Forecasts in the EU: The role of instrument persistence; ***Journal of Applied Econometrics*** 36 (1), 151–161

Demetrescu, M., J. S. Leppin, and S. Reitz: Homogeneous vs. Heterogeneous Transition Functions in Panel Smooth Transition Regressions; ***Econometric Reviews*** 40 (2), 177–196

2020 Demetrescu, M., V. Golosnoy and A. Titova: Bias Corrections for Exponentially Transformed Forecasts: Are they worth the effort? ***International Journal of Forecasting*** 36 (3), 761–780

2019 Demetrescu, M. and D. Wied: Testing for Constant Correlation of Filtered Series under Structural Change; ***The Econometrics Journal*** 22 (1), 10–33

Demetrescu, M. and S. Hacıoğlu Hoke: Predictive Regressions Under Asymmetric Loss: Factor augmentation and model selection; ***International Journal of Forecasting*** 35 (1), 80–99

2018 Demetrescu, M. and C. Hanck: Multiple Testing for No Cointegration under Nonstationary Volatility; ***Oxford Bulletin of Economics and Statistics*** 80 (3), 485–513

2016 Demetrescu, M. and U. Homm: Directed Tests for No Cross-Sectional Error Correlation in Large-N Panel Data Models; ***Journal of Applied Econometrics*** 31 (1), 4–31

Demetrescu, M. and U. Hassler: (When) Do Long Autoregressions Account for Neglected Changes in Parameters? ***Econometric Theory*** 32 (6), 1317–1348

Demetrescu, M. and P. Sibbertsen: Inference on the Long-Memory Properties of Time Series with Non-Stationary Volatility; ***Economics Letters*** 144, 80–84

Demetrescu, M. and C. Hanck: Robust Inference for Near-Unit Root Processes with Time-Varying Error Variances; ***Econometric Reviews*** 35 (5), 751–781

2015 Breitung, J. and M. Demetrescu: Instrumental Variable and Variable Addition Based Inference in Predictive Regressions; ***Journal of Econometrics*** 187 (1), 358–375

Born, B. and M. Demetrescu: Recursive Adjustment for General Deterministic Components and Improved Tests for the Cointegration Rank; ***Journal of Time Series Econometrics*** 7 (2), 143–179

2014 Demetrescu, M.: Enhancing the Local Power of IVX Based Tests in Predictive Regressions; ***Economics Letters*** 124 (2), 269–273

Demetrescu, M., C. Hanck and A. I. Tarcolea: IV-Based Cointegration Testing in Dependent Panels with Time-Varying Variance; ***Journal of Time Series Analysis*** 35 (5), 393–406

Demetrescu, M. and M.-C. Wang: Incorporating Asymmetric Preferences into Fan Charts and Path Forecasts; ***Oxford Bulletin of Economics and Statistics*** 76 (2), 287–297

2013 Demetrescu, M. and R. Kruse: The Power of Unit Root Tests Against Nonlinear Local Alternatives; ***Journal of Time Series Analysis*** 34 (1), 40–61

Demetrescu, M. and C. Hanck: Nonlinear IV Panel Unit Root Testing under Structural Breaks in the Error Variance; ***Statistical Papers*** 54 (4), 1043–1066

2012 Demetrescu, M. and C. Hanck: Unit Root Testing in Heteroskedastic Panels using the Cauchy Estimator; ***Journal of Business and Economic Statistics*** 30 (2), 256–264

Demetrescu, M. and C. Hanck: A Simple Nonstationary-Volatility Robust Panel Unit Root Test; ***Economics Letters*** 117 (1), 10–13

2011 Demetrescu, M., U. Hassler and V. Kuzin: Pitfalls of Post-Model-Selection Testing: Experimental quantification; ***Empirical Economics*** 40 (2), 359–372

Hassler, U., M. Demetrescu and A. I. Tarcolea: Asymptotic Normal Tests for Integration in Panels with Cross-Dependent Units; ***Advances in Statistical Analysis*** 95 (2), 187–204

2010 Alp, T. and M. Demetrescu: Joint Forecasts of Dow Jones Stocks Under General Multivariate Loss Function; ***Computational Statistics & Data Analysis*** 54 (11), 2360–2371

Hassler, U., A. I. Tarcolea and M. Demetrescu: Testing for Stationarity in Large Panels with Cross-Dependence, and US Evidence on Unit Labor Cost; ***Journal of Applied Statistics*** 37 (8), 1381–1397

Demetrescu, M.: On the Dickey-Fuller Test with White Standard Errors; ***Statistical Papers*** 51 (1), 11–25

2009 Demetrescu, M., H. Lütkepohl and P. Saikkonen: Testing for the Cointegrating Rank of a VAR Process with Uncertain Deterministic Trend Term; ***Econometrics Journal*** 12 (3), 414–435

Demetrescu, M.: Panel Unit Root Testing and the Martingale Difference Hypothesis for German Stocks; ***Economics Bulletin*** 29 (3), 1756–1766

Demetrescu, M.: Panel Unit Root Testing with Nonlinear Instruments for Infinite-Order Autoregressive Processes; ***Journal of Time Series Econometrics*** 1 (2), article 3

2008 Demetrescu, M., V. Kuzin and U. Hassler: Long Memory Testing in the Time Domain; ***Econometric Theory*** 24 (1), 176–215

Demetrescu, M. and A. I. Tarcolea: Bias Correction for the Regression-Based LM Fractional Integration Test; ***Advances in Statistical Analysis*** 92 (1), 91–99

2007 Demetrescu, M.: Optimal Forecast Intervals Under Asymmetric Loss; ***Journal of Forecasting*** 26 (4), 227–238

Demetrescu, M. and U. Hassler: Effect of Neglected Deterministic Seasonality on Unit Root Tests; ***Statistical Papers*** 48 (3), 385–402

Heike, H.-D., C. Târcolea, A. I. Tarcolea and M. Demetrescu: Fiducial Inference: An Approach based on Bootstrap Techniques; ***U.P.B. Scientific Bulletin Series A*** 69 (1), 3–12

Demetrescu, M.: Volatility Clustering in High-Frequency Data: A self-fulfilling prophecy? ***Economics Bulletin*** 7 (15), 1–8

2006 Demetrescu, M., U. Hassler and A. I. Tarcolea: Combining Significance of Correlated Statistics with Application to Panel Data; ***Oxford Bulletin of Economics and Statistics*** 68 (5), 647–633

Demetrescu, M.: What Liquidity Do Hypothetical Price Impact Curves Measure? ***Applied Financial Economics Letters*** 2 (5), 301–303

Demetrescu, M.: An Extension of the Gauss-Newton Algorithm for Estimation Under Asymmetric Loss; ***Computational Statistics & Data Analysis*** 50 (2), 379–401

Heike, H.-D. and M. Demetrescu: Loss Reduction in Point Estimation Problems; ***Economic Quality Control*** 21 (2), 209–217

2005 Hassler, U. and M. Demetrescu: Spurious Persistence and Unit Roots due to Seasonal Differencing: The Case of Inflation Rates; ***Journal of Economics and Statistics*** 225 (4), 413–426

Heike, H.-D., C. Târcolea, M. Demetrescu and A. I. Tarcolea: Determining the Parameters of a Multinomial Distribution: The Fiducial Approach; ***Economic Quality Control*** 20 (2), 177–189

Proceedings Heike, H.-D. and M. Demetrescu: Approximating Unknown Functions when Fitting Errors Involve Costs (2007). In: Bălan, V. (Ed.) ***Proceedings of the 4th International Colloquium of Mathematics in Engineering and Numerical Physics (MENP-4)***, Geometry Balkan Press, 68–72

Heike, H.-D., C. Târcolea, M. Demetrescu and A. I. Tarcolea: Fiducial Inference for Discrete and Continuous Distributions (2003). In: Bălan, V. (Ed.) ***Proceedings of the 2nd International Colloquium of Mathematics in Engineering and Numerical Physics (MENP-2)***, Geometry Balkan Press, 69–80

Conference & seminar talks since 2014

Frankfurt, June 2014; London, June 2014; Hannover, September 2014; Essen, November 2014; Barcelona, December 2014; Cologne, December 2014; Hannover, January 2015; Rauischholzhausen February 2015; Frankfurt May 2015; Münster, September 2015; Hamburg, September 2015; Köln, October 2015; Aarhus, October 2015; London, December 2015, Hamburg, January 2016; Dresden, May 2016; Bonn, July 2016, Berlin, September 2016, Zürich, September 2016, Madrid, October 2016; Kiel, November 2016; Kiel, January 2017; Rauischholzhausen, February 2017; Rotterdam, March 2017; Paris, March 2017, Vienna, June 2017, Thessaloniki, July 2017; Regensburg, November 2017; Rauischholzhausen, February 2018; Rotterdam, May 2018; Kiel, May 2018; Marseille, June 2018; Íîlhavo, June 2018, Vallendar, October 2018; Frankfurt, October 2018; Hannover, October 2018; Madrid, November 2018; Paris, November

2018; Köln, December 2018; Pisa, December 2018; Nürnberg, January 2019; Marburg, January 2019; Vienna, May 2019; Kiel, June 2019; Bonn, June 2019; Vilnius, July 2019; Colchester, September 2019; Trier, September 2019; Frankfurt, October 2019; Köln, October 2019; Lund, November 2019; Oxford, December 2019; London, December 2019; Köln, February 2020; Durham, May 2020 (virtual); Zagreb, September 2020 (virtual); Kiel, September 2021 (virtual), London, December 2021 (virtual); Hamburg, March 2022; Essex, May 2022 (virtual); Vienna, June 2022; Marseille, June 2022; London, June 2022; Hannover, June 2022, Dortmund, February 2023; Madrid, March 2023; Essex, May 2023; Aarhus, May 2023; Frankfurt June 2023; Oslo, June 2023; Amsterdam, July 2023; Regensburg, September 2023; Bielefeld, November 2023; Berlin, December 2023; Paderborn, January 2024; Zaragoza, April 2024; Vienna, May 2024; Ponta Delgada, June 2024; Dijon, July 2024; Regensburg, September 2024; Heidelberg, November 2024; Freiburg, December 2024; Köln, May 2025; Palermo, May 2025; Vienna, June 2025; Kiel, July 2025; Frankfurt, July 2025; Lisbon, Septermber 2025.

Teaching experience

Econometrics

Advanced Econometrics (Graduate level: Dortmund, recurrent; Bonn, 2010-2014; DIW Berlin, Winter 2011, September/October 2010, September 2009; Frankfurt, Winter 2008)

Fundamentals of Econometrics (Graduate level: Frankfurt, Winter 2009 and Winter 2008)

Introductory Econometrics (Undergraduate level: Frankfurt, Winter 2006)

Panel Econometrics (Graduate level: Dortmund, recurrent; Kiel, Summer 2018)

Time Series Econometrics (Undergraduate level: Frankfurt, Summer 2006; Graduate level: Bonn, Summer 2011)

Econometric Forecasting (Graduate level: Dortmund, recurrent)

Predictive Regressions with Nonstationary Regressors (Graduate level: Kiel, Summer 2017, Summer 2015, January 2014)

Nonstationary Time Series and Panel Analysis (Graduate level: Kiel, Summer 2014)

Statistics

Statistical Theory (Graduate level: Dortmund, recurrent)

Advanced Statistics I-III (Graduate level: Kiel, recurrent)

Data Mining (Graduate level: Kiel, recurrent)

Statistical Computing (Graduate level: Kiel, recurrent)

Time Series Analysis (Graduate level: Dortmund, recurrent; Undergraduate level: Bonn, Summer 2013; Graduate level: Kiel, recurring; EBS Oestrich-Winkel, October 2009)

Time Series Analysis in Data-Rich Environments (Graduate level: Kiel, Summer 2014)

Time Series Asymptotics (Graduate level: Kiel, Winter 2013; Bonn, Summer 2012; Frankfurt, Summer 2010 and Summer 2009; Florence, Spring 2008)

Topics in Mathematics and Statistics (Graduate level: Florence, Fall 2007)

Mathematics

Case Studies (Graduate level: Dortmund, recurrent)

Topics in Mathematics and Statistics (Graduate level: Florence, Fall 2007)

Introductory Math for Economics and Business (Undergraduate level: Frankfurt, Winter 2006)

Seminars Forecasting in Data-Rich Environments; Predictive Regressions for Stock Returns (recurrent)

Other Teaching practice at the LSE (London, May 2008)

Service to the profession

Associate Editor Econometrics and Statistics; Computational Statistics; Statistics: A Journal of Theoretical and Applied Statistics

Refereeing Journal of Econometrics, Econometric Theory, Journal of Business and Economic Statistics, Econometrics Journal, Quantitative Economics, Econometric Reviews, Economics, Management Science, International Journal of Forecasting, Computational Statistics & Data Analysis, Computational Statistics, Oxford Bulletin of Economics and Statistics, Statistics, Journal of Time Series Analysis, Journal of Financial Econometrics, Macroeconomic Dynamics, Mathematical Reviews, Statistical Papers, Journal of Time Series Econometrics, Statistics and Probability Letters, Statistics and Computing, Journal of Economics and Statistics, Statistical Methodology, Empirical Economics, Journal of Business Cycle Analysis and Measurement, Applied Financial Economics, Journal of Risk and Financial Management, Journal of Applied Statistics, Communications in Statistics, Journal of Empirical Finance, Quantitative Finance, Statistics: A journal of theoretical and applied statistics, AStA Advances in Statistical Analysis, Economic Modelling, Applied Economics, Studies in Nonlinear Dynamics & Econometrics, Journal of Statistical Computation and Simulation, Econometrics and Statistics, Journal of Applied Econometrics, Journal of Money, Credit and Banking

Grant evaluation DFG (German Research Foundation)

Romanian National Research Council 2012 Call for proposals

Polish National Science Center

(Co-)Organizer Local organizer, Statistische Woche 2021 (online) and 2023

Scientific committee, Statistics under one Umbrella 2019

Scientific committee, Statistische Woche, since 2017

Scientific committee, Jahrestagung des Vereins für Socialpolitik 2016

Scientific committee, New Trends and Developments in Econometrics, Bank of Portugal 2016, Lisbon

Case maker for the Econometrics Game 2013, Amsterdam

Workshop “Recent Developments in Time Series and Panel Data Econometrics”, June 2011, Bonn

Mini-symposium “Forecasting and Persistence”, Statistische Woche 2009

Memberships

International Association for Applied Econometrics

German Statistical Society

Italian Econometric Society (SIdE)

Verein für Socialpolitik – Ausschuss für Ökonometrie

Deutscher Hochschulverband

Languages spoken

Romanian (native)

English, German (fluent)

Spanish, French, Italian (conversant)