

Wednesday, 17 November 2021

## **Christian Schumacher**

### **Address**

Deutsche Bundesbank  
Economics Research Centre  
Wilhelm-Epstein-Straße 14  
60431 Frankfurt/Main  
Phone: 069/9566-22939  
E-Mail: christian.schumacher@bundesbank.de

### **Academic Education**

2002            Ph.D. in Economics (Dr. rer. pol.), University of Kassel  
  
1996            Master in Economics (Diplom-Volkswirt), University of Göttingen

### **Employment**

Since 2015    Deputy Head of Research: Deutsche Bundesbank, Research Centre  
  
2003 - 2014   Senior Economist: Deutsche Bundesbank, Economics Research Centre; Bundesbank Representative at the Eurosystem Working Group on Econometric Modelling (WGEM)  
  
2000 - 2003    Economist: Hamburg Institute of International Economics, Business Cycle Analysis Department, Head of Business Cycle Research Unit  
  
1997 - 1999    Economist: Institute of Economic Research Halle/Saale, Business Cycle Analysis Department

### **Research Interests**

Nowcasting and forecasting, econometrics of mixed-frequency data, dynamic factor models with large data sets, state-space models

### **Ongoing projects**

Precision-based sampling with missing observations: A factor model application (with Philipp Hauber, Uni Würzburg).

### **Refereed Publications, Contribution to Books, Monographs**

Kaufmann, S., C. Schumacher, Bayesian estimation of sparse dynamic factor models with order-independent and ex-post mode identification, *Journal of Econometrics* 210(1), 116-134.

Kaufmann, S., C. Schumacher (2017), Identifying relevant and irrelevant variables in sparse factor models, *Journal of Applied Econometrics* 32(6), 1123–1144.

Schumacher, C. (2016), A comparison of MIDAS and bridge equations, *International Journal of Forecasting* 32, 257-270.

Froni, C., M. Marcellino and C. Schumacher (2015), U-MIDAS: MIDAS regressions with unrestricted lag polynomials, *Journal of the Royal Statistical Society – Series A*, Vol. 178, pp. 57-82.

Kuzin, V., M. Marcellino and C. Schumacher (2013), Pooling versus model selection for nowcasting GDP with many predictors: Empirical evidence for six industrialized countries, *Journal of Applied Econometrics* 28, 392-411.

Kuzin, V., M. Marcellino and C. Schumacher (2011), MIDAS vs. mixed-frequency VAR: Nowcasting GDP in the Euro Area, *International Journal of Forecasting* 27, 529-542.

Marcellino, M. and C. Schumacher (2010), Factor MIDAS for Nowcasting and Forecasting with Ragged-Edge Data: A Model Comparison for German GDP, *Oxford Bulletin of Economics and Statistics* 72, 518-550.

Schumacher, C. (2010), Factor forecasting using international targeted predictors: The case of German GDP, *Economics Letters* 107, 95-98

Schumacher, C., J. Breitung (2008), Real-time forecasting of German GDP based on a large factor model with monthly and quarterly data, *International Journal of Forecasting*, 24, 368-398.

Schumacher, C. (2008), Measuring uncertainty of the euro area NAIRU: Monte Carlo and empirical evidence for alternative confidence intervals in a state space framework, *Empirical Economics* 34, 357-379.

Schumacher, C. (2007), Forecasting German GDP using alternative factor models based on large datasets, *Journal of Forecasting* 26, 271-302

Dreger, C., C. Schumacher (2005), The Out-of-Sample Performance of Leading Indicators for the German Business Cycle: Single vs. Combined Forecasts, *Journal of Business Cycle Measurement and Analysis* 2, No. 1, 71-88.

Dreger, C., C. Schumacher (2004), Estimating large-scale factor models for economic activity in Germany : Do they outperform simpler models? *Jahrbücher für Nationalökonomie und Statistik* 224, 732-750.

Schumacher, C. (2004), A comparison of mean square error approximations for a small estimated state space model, *Allgemeines Statistisches Archiv - Journal of the German Statistical Society* 88, 327-345.

Dreger, C., C. Schumacher (2003), Are Real Interest Rates Cointegrated? Further evidence based on panel econometric methods, *Swiss Journal of Economics and Statistics* 139, 41-54.

Schumacher, C. (2002), Forecasting trend output in the Euro area, *Journal of Forecasting* 21, 543-558.

## **Working Papers**

Hauber, P., C. Schumacher (2021), Precision-based sampling with missing observations: A factor model application, *Deutsche Bundesbank Discussion Paper* 11/2021.

Hauber, P., C. Schumacher, J. Zhang (2019), A flexible state-space model with lagged states and lagged dependent variables: Simulation smoothing, *Deutsche Bundesbank Discussion Paper* 15/2019.

Schumacher, C. (2014), MIDAS and bridge equations, *Deutsche Bundesbank Discussion Paper* 26/2014.

Kaufmann, S., C. Schumacher (2013), Bayesian estimation of sparse dynamic factor models with order-independent identification, Swiss National Bank, Study Center Gerzensee Working Papers No 13.04.

Kaufmann, S., C. Schumacher (2012), Finding relevant variables in sparse Bayesian factor models: economic applications and simulation results, Deutsche Bundesbank Discussion Paper 29/12.

Froni, C., M. Marcellino, C. Schumacher (2011), U-MIDAS: MIDAS regressions with unrestricted lag polynomials, Deutsche Bundesbank Discussion Paper, Series 1: Economic Studies, No. 35/11.

Kuzin, V., M. Marcellino, C. Schumacher (2009), Pooling versus model selection for nowcasting with many predictors: An application to German GDP, Deutsche Bundesbank Discussion Paper, Series 1: Economic Studies, No. 03/09.

Scharnagl, M., C. Schumacher (2007), Reconsidering the role of monetary indicators for euro area inflation from a Bayesian perspective, Deutsche Bundesbank Discussion Paper, Series 1: Economic Studies, No. 09/07.

### **Invited Papers, Contribution to Books, Monographs**

Schumacher, C. (2014), Comments on “Short-Term Inflation Projections: A Bayesian Vector Autoregressive Approach”, *International Journal of Forecasting* 30(3), 645-647.

Schumacher, C. (2011), Forecasting with Factor Models Estimated on Large Datasets: A Review of the Recent Literature and Evidence for German GDP, *Jahrbücher für Nationalökonomie und Statistik* 231/1, 28-49.

Dreger, C., C. Schumacher (2004), Money Demand in Europe: Evidence from Panel Cointegration Tests. In: Stephen G. Hall, U. Heilemann and P. Pauly (Eds.): *Macroeconometric Models and European Monetary Union*, Berlin, Duncker & Humblot.

Schumacher, C. (2002), *Alternative Schätzansätze für das Produktionspotenzial im Euro-raum*, HWWA Studien, Bd. 71, Baden-Baden, Nomos.

### **Referee Activities**

Allgemeines Statistisches Archiv – Journal of the German Statistical Society, Banque de France Documents de Travail, Banco de Portugal Working Papers, Canadian Journal of Economics, Computational Statistics and Data Analysis, Czech National Bank Working Paper

Series, ECB Working Paper Series, Economic Modelling, Economics Letters, Empirical Economics, European Economic Review, International Journal of Central Banking, International Journal of Forecasting, Jahrbücher für Nationalökonomie und Statistik, Journal of Applied Econometrics, Journal of Business & Economic Statistics, Journal of Forecasting, Journal of International Economics, Journal of Macroeconomics, Journal of Money, Credit and Banking, Macroeconomic Dynamics, Oxford Bulletin of Economics and Statistics, Oxford Economic Papers, Quarterly Review of Economics and Finance, SERIEs - Journal of the Spanish Economic Association, Swiss National Bank (SNB) Working Papers series, The Review of Economics and Statistics

### **Organizing Conferences and Workshops (since 2010)**

#### **2017**

- Bundesbank Forecasting Workshop, jointly with Malte Knüppel, 8/9 September 2017

#### **2014**

- Member of Program Committee of European Conference of the Econometrics Community (EC2): Advances in Forecasting, UPF Barcelona, Barcelona, December 12-13, 2014
- Factor Model Workshop, Deutsche Bundesbank, Frankfurt am Main, 2 April 2014

#### **2013**

- Member of Program Committee of European Conference of the Econometrics Community (EC2): The Econometric Analysis of Mixed Frequency Data, University of Cyprus, Cyprus, December 2013

#### **2012**

- Joint Research Workshop Bundesbank – Norges Bank, jointly with Sandra Eickmeier, 27 Sep 2012
- Bundesbank Workshop: Uncertainty and Forecasting in Macroeconomics, jointly with Malte Knüppel, 1 June 2012

#### **2010**

- Conference: Forecasting: The role of real-time and survey data, Jointly with ECB and EABCN, 5-6 March 2010

## Conference and Workshop Presentations (since 2010)

### 2016

- Path predictive likelihood and (weighted) scoring rules for time-varying parameter models: An application to inflation and deflation forecasts in the Euro area and Japan, NBP Workshop on Forecasting, Warsaw, 21-22 November 2016
- What's the probability of deflation in the Euro area? Evaluating path forecast densities with weighted scores, Joint Norges Bank - Deutsche Bundesbank Workshop, Deutsche Bundesbank, 20 April 2016
- What's the probability of deflation in the Euro area? Evaluating path forecast densities with weighted scores, Verein für Socialpolitik: Ausschuss für Ökonometrie, Schloss Rauischholzhausen, 25-27 February 2016

### 2015

- What's the probability of deflation in the Euro area and Japan?, Econometrics Seminar University Giessen, 15 December 2015
- MIDAS regressions with time-varying parameters, Research Seminar of the Institute of Statistics and Econometrics, University of Kiel, 11 June 2015

### 2014

- MIDAS regressions with time-varying parameters, CFE-ERCIM 2014, Pisa, 6-8 December 2014
- Finding relevant variables in Sparse Bayesian Factor Models: Economic applications and simulation results, Research Seminar, University of Regensburg, 17 November 2014
- MIDAS regressions with time-varying parameters, IWH Halle/Saale, 4 November 2014
- MIDAS and bridge equations, KOF Zurich, 29 October 2014
- MIDAS and bridge equations, University of Cologne, 7 October 2014
- MIDAS regressions with time-varying parameters: An application to corporate bond spreads and GDP in the Euro area, Jahrestagung Verein für Socialpolitik, HSU Hamburg, 9 Sep 2014
- Efficient estimation and forecasting in dynamic factor models with structural instability, 34th International Symposium on Forecasting, Erasmus University Rotterdam, 2 July 2014
- Efficient estimation and forecasting in dynamic factor models with structural instability, SIRE Workshop on Econometric Modelling and Forecasting in Central Banks, University of Glasgow, 16 May 2014

- MIDAS regressions with time-varying parameters: An application to corporate bond spreads and GDP in the Euro area, Deutsche Bundesbank and Norges Bank Workshop on Empirical Macroeconomics, Norges Bank, Oslo 17 March, 2014

## 2013

- MIDAS regressions with time-varying parameters: An application to corporate bond spreads and GDP in the Euro area (poster), EC2, University of Cyprus, 14 December 2013
- U-MIDAS: MIDAS regressions with unrestricted lag polynomials, IHS Vienna, Research Seminar, 14 November 2013
- Finding relevant variables in Sparse Bayesian Factor Models: Economic applications and simulation results, Applied Time Series Econometrics Workshop, Fed St. Louis, 18 October 2013
- MIDAS regressions with time-varying parameters: An application to corporate bond spreads and GDP in the Euro area, SUNY Albany, Research Seminar, 15 October 2013
- Finding relevant variables in Sparse Bayesian Factor Models: Economic applications and simulation results, Statistische Woche 2013, FU Berlin, 17 September 2013
- Finding relevant variables in Sparse Bayesian Factor Models: Economic applications and simulation results, ESEM Gothenburg, 27 August 2013
- Corporate bond spreads and real economic activity: Time-varying MIDAS evidence, Seminar, University of Cologne, 16 June 2013
- U-MIDAS: MIDAS regressions with unrestricted lag polynomials, Brunel University London, Research Seminar, 13 March 2013
- Interest rate spreads and real economic activity: MIDAS evidence, Verein für Socialpolitik: Ausschuss für Ökonometrie, Schloss Rauischholzhausen, 1 March 2013

## 2012

- Sparse Dynamic Factor Model, Econometric Workshop organized by Prof. Uwe Hassler, Goethe University, Frankfurt/Main, 15/16 Jun 2012
- Nowcasting German GDP: Research results and models used at the Bundesbank, IAB, Nürnberg, 13 June 2012

## 2011

- U-MIDAS: MIDAS regressions with unrestricted lag polynomials, DIW Macroeconomic Workshop 2011, Berlin, 2 Dec 2011
- Discussion of D. Giannone (ULB) "Short-term inflation projections: a Bayesian vector autoregressive approach", 8th International Institute of Forecasters Workshop on "Forecasting the Business Cycle", Banque de France, Paris, 1 Dec 2011
- Pooling versus model selection for nowcasting GDP with many predictors: Empirical evidence for six industrialized countries, Workshop on Nowcasting: advances, implementation and logistics, Sveriges Riksbank, Stockholm, 15 Nov 2011

- Nowcasting German GDP: Research Results and Models used at the Bundesbank, Open Seminar of Eesti Pank, Tallinn, 27 Oct 2011
- Pooling versus model selection for nowcasting GDP with many predictors: Empirical evidence for six industrialized countries, ESEM, Oslo, 27 Aug 2011
- Sparse Dynamic Factor Model, Jahrestagung des Vereins für Socialpolitik, Frankfurt/Main, 7 Sep 2011
- Pooling versus model selection for nowcasting with many predictors, Eurosystem WGF Expert Meeting on activity forecasting following the crisis, Frankfurt/Main, 15 Jun 2011
- Sparse Dynamic Factor Model, Research Seminar of the Institute of Statistics and Econometrics, University of Kiel, 26 May 2011
- Discussion of K. Arnostova, D. Havrlant, L. Ruzicika, P. Toth (CNB) "Short-Term Forecasting of Czech Quarterly GDP Using Monthly Indicators", CNB Research Open Day, Prague, 24 May 2011

## **2010**

- Dynamic Sparse Factor Model, Invited Session: Factor Models, 4th International Workshop on Computational and Financial Econometrics (CFE '10), London, 10 Dec 2010
- Dynamic Sparse Factor Model, 11th IWH-CIREQ Macroeconometric Workshop: Recent Advances in Macroeconomic Forecasting, Halle (Saale), 8 Dec 2010
- Pooling Versus Model Selection for Nowcasting with Many Predictors: An Application to German GDP, 6th Colloquium on Modern Tools for Business Cycle Analysis, Eurostat, Luxemburg, 29 Sep 2010
- MIDAS vs. mixed-frequency VAR: Nowcasting GDP in the euro area, Statistische Woche, Ausschuss für Ökonometrie und Empirische Wirtschaftsforschung, Nürnberg, 16 Sep 2010