Preface

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Biographical notes: Lyudmila Grigoryeva is an Assistant Professor in Computational Statistics and Econometrics at the University of Konstanz (Germany) since October 2015. She obtained her PhD in Mathematical Modelling and Computational Methods at the Taras Shevchenko National University of Kyiv (Ukraine) in 2009. She was awarded with a Schlumberger Foundation Faculty for Future Fellowship for two years in a row in 2011–2013 which she used to conduct research in the Laboratoire de Mathématiques de Besançon of the Univ. Bourgogne Franche-Comté (France) as a Postdoctoral Fellow. In 2014 and 2015 she continued her work in that institution in the framework of a multidisciplinary research project funded by the Région de Franche-Comté. Her research interests lay mainly in the areas of statistical modelling, dynamical systems and stability, machine learning and neural networks, and financial econometrics.

Juan-Pablo Ortega is a Professor at the Faculty of Mathematics and Statistics at the University of St. Gallen (Switzerland). He holds a Master's degree in Theoretical Physics from the Universidad de Zaragoza (Spain), a PhD in Mathematics from the University of California, Santa Cruz, and a Habilitation

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Diploma from the Université de Nice (France). He has worked for the EPF Lausanne (Switzerland) and for the French Centre National de la Recherche Scientifique (CNRS) as a senior scientist, where he is now on leave. He started his academic career working on geometric mechanics, a subject in which he is at the origin of important contributions. More recently, he has worked on statistical modelling with specific applications to financial econometrics and physiological signal treatment and analysis. He has authored two research monographs (one awarded with an international prize), 60 peer reviewed papers, and has been a speaker in over 100 international scientific events.

Andrea Silvestrini is Head of the Financial flows Unit at the Economic Outlook and Monetary Policy Directorate of the Bank of Italy. He graduated from the University of Rome 'La Sapienza' in 2001 with a BA in Economics. He received an MA in Economics from the Université catholique de Louvain (2003), a PhD in Applied Statistics from the University of Perugia (2005) and a PhD in Economics from the Université catholique de Louvain (2009). Since 2006, he has been an economist and a senior economist at the Bank of Italy. He has published extensively in international peer-reviewed journals and in edited collective volumes.

In recent years, the global financial crisis has highlighted the limitations of conventional macroeconometric models, which have not been able to reproduce salient features of the business cycle and to predict the severity of the economic downturn. In this context, it is of paramount importance to gather new insights from economic and statistical theory in order to improve econometric modelling and forecasting, with the crucial objective of supporting sound decision making.

It is thus our great pleasure to present this special issue of the *International Journal of Computational Economics and Econometrics*, entitled Recent Developments in Forecasting and Macroeconometrics, which focuses on new methodological, computational and empirical aspects of macroeconomic modelling and forecasting. The volume consists of a selection of eight papers, all of them containing applications of forecasting techniques and macroeconometric models, which will be useful and relevant for policy makers. All of the submissions are top-level contributions, at the forefront of economic modelling. In the following paragraphs, we provide a brief overview of their contents.

The paper 'Hyper-parameterised dynamic regressions for nowcasting Spanish GDP growth in real time', by de Antonio Liedo and Fernández Muñoz, studies forecasting tools that can handle a broad number of economic indicators. The authors analyse the nowcasting performance of hyper-parameterised dynamic regression models and compare it with alternative state-of-the-art models. The so-called 'curse of dimensionality' of the proposed method is overwhelmed with prior information, originating in the Bayesian VAR literature. The paper assesses the performance of the proposed method via the real-time forecast simulations conducted over the most severe phase of the Great Recession.

The paper by Aprigliano et al. 'A daily indicator of economic growth for the euro area' also discusses the challenges faced by policy makers when assessing in real time and on a daily basis the state of the economy. In this context, the paper is concerned with the selection of the most relevant indicators together with a method to

combine them into a summary measure that can be easily communicated to the general public. In this setup, the authors develop a particular daily indicator of economic activity and show in a forecasting exercise that their Unrestricted Mixed-Data Sampling (UMIDAS) model outperforms a set of baseline competing methods in forecasting GDP growth.

A similar MIDAS-based approach is used in the paper 'Nowcasting US inflation using a MIDAS augmented Phillips curve', by Marsilli, in the context of policy-oriented tools for monitoring US inflation in real time. The author suggests that performances of inflation nowcasting models rely on two key elements: the inclusion of high-frequency oil price data and the adoption of a rolling-window forecasting scheme. The paper proposes a technique based on a MIDAS augmented Phillips curve with daily oil price series for nowcasting inflation, which favourably contains these key ingredients and outperforms several standard benchmark models.

The paper 'Forecasting euro area recessions by combining financial information', by Bellégo and Ferrara, studies the explanatory power of financial markets on economic activity and proposes to evaluate the ability of a set of financial variables to forecast recessions in the euro area by using binary response models associated with information combination. Out-of-sample results over the periods 2007–2009 and 2011–2013 show that financial variables would have been helpful in giving accurate and timely recession signals in real time.

Coco and Silvestrini in 'The nature and propagation of shocks in the euro area: a comparative SVAR analysis' investigate the nature and the propagation of macroeconomic shocks hitting the euro area in order to draw indications on the functioning and viability of the monetary union after 15 years from its inception. Structural VAR models identified with sign restrictions for a large set of euro area countries allow to compare the properties of three independent shocks – aggregate supply, demand, and monetary policy – over different sample periods, before and after the start of the Economic and Monetary Union. These results allow drawing conclusions about the size and persistence of shocks in the eurozone countries for different time periods compared with two control countries inside the European Union but outside the euro area (UK and Sweden).

The paper 'An augmented Taylor rule for the Federal Reserve's response to asset prices', by Hafner and Lauwers, investigates whether and how the US Federal Reserve has reacted to asset price developments over the period 1979–2011. The authors examine both the opportunities and limitations of incorporating two asset prices, equity and real estate, into a standard forward-looking and inertial interest rate rule, estimated on ex-post realised monthly data and taking into account the inherent endogeneity. Based on their findings, the authors suggest specific strategies for monetary authorities and policy makers.

The asynchronicity of daily data from stock markets is used in the paper 'Autocorrelation in an unobservable global trend: does it help to forecast market returns?', by Peresetsky and Yakubov, in order to setup a model to estimate the global component of daily market returns. A global stochastic trend extracted via a Kalman filter method is studied with regard to potential improvements in the predictability of market returns for three stock markets indices (Nikkei 225, FTSE, S&P 500).

In the paper 'The back side of banking in Russia: forecasting bank failures with negative capital', Karminsky and Kostrov are concerned about the consequences on the Russian banking system of the turmoil caused by the global economic recession in

2008–2009 and geopolitical issues in 2014–2015. The authors propose a Logit model describing the probability of bank failure and use various variable selection techniques in order to choose the most appropriate predictors. They also assess the in-sample and out-of-sample performance of the proposed approach and suggest strategies for practitioners.

We use this occasion to express our appreciation to all the people who have contributed to the existence and the success of this special volume. We are deeply grateful to all our colleagues who supported us and offered their help with the high quality assessment of all the submissions, which were systematically subjected to demanding and high-level double blind refereeing. This special issue would not have been possible without the support of the economics and econometrics research communities. We hope that this collection of papers will be a source of inspiration for researchers and a useful guide for practitioners.