Journal of APPLIED ECONOMETRICS
NEWSLETTER

Issue 31   **Spring/Summer 2022**

From the Editor

This year the JAE editorial meeting took place virtually on June 21, 2022 during the annual IAAE conference, sponsored by the *Journal of Applied Econometrics/Wiley*. The 2022 annual IAAE conference took place at King's College London, U.K., on June 21-24, 2022. The organizers of the conference were the Directors of the IAAE: Heather Anderson, Monash University; Marcelle Chauvet, University of California Riverside; Bruce Hansen, University of Wisconsin – Madison; Thierry Magnac, Toulouse School of Economics; and Barbara Rossi, ICREA – Universitat Pompeu Fabra, Barcelona GSE, CREI. We are most grateful to the program co-chairs, Ana Maria Herrera (University of Kentucky) and Peter Arcidiacono (Duke University) as well as to the Local Organizers, Jack Fosten (King's College London), Sinem Hacioglu (Bank of England), George Kapetanios (King's College London), Daniele Massacci (King's College London), Francesca Monti (King's College London) and Michele Piffer (King's College London) for their help in putting together such a wonderful conference. For more information on the conference, see the official conference website at https://iaae2022.org/. The IAAE invited lecture was delivered by Joshua Angrist, and the program also featured invited presentations by Jesús Gonzalo, Ron Smith, Allan Timmerman, Xiaohong Chen, Silvia Gonçalves, Michael Keane, Rob Engle, Esfandiar Maasoumi, Refet S. Gürkaynak and Jonathan Wright.

Next year, the IAAE conference is planned to take place at the BI Norwegian Business School, Oslo, Norway, on June 27-30, 2023. I look forward to seeing you there!

We also encourage IAAE members to send their applications for funding to organize seminars or workshops. If you would like to put together workshops or seminars around a topic or field, please send an email to applied.econometrics.iaae@gmail.com.

Also, note that the IAAE will sponsor two sessions at the 2023 ASSA Meetings! The first session, on **Unconventional monetary policy**, chaired by Jonathan Wright, will include the following papers: "Communicating Policy Uncertainty" by Anna Cieslak, Stephen Hansen, Michael McMahon and Song Xiao; "Unconventional Monetary Policy According to HANK" by Eric Sims, Cynthia Wu and Ji Zhang; "A Household Housing Portfolio Channel of QE Transmission" by Daniel Marcel te Kaat, Chang Ma and Alessandro Rebucci; "The Narrow Channel of Quantitative Easing: Evidence from Yield Curve Control Down Under" by David O. Lucca and Jonathan H. Wright. The second session, titled **Misspecification Robust Inference in the 21st Century**, chaired by Silvia Goncalves, will include the

following papers: "Conditional Misspecification Testing with Irrelevant Instruments" by Prosper Dovonon and Nikolay Gospodinov; "Prediction When Factors Are Weak", by Stefano Giglio, Dacheng Xiu and Dake Zhang; "Heterogeneity-robust estimation and inference" by Timothy Christensen.

Finally, let me highlight that the Journal of Applied Econometrics has a replication section with a long tradition. Researchers interested in submitting their work to the replication section will find more information at the link:
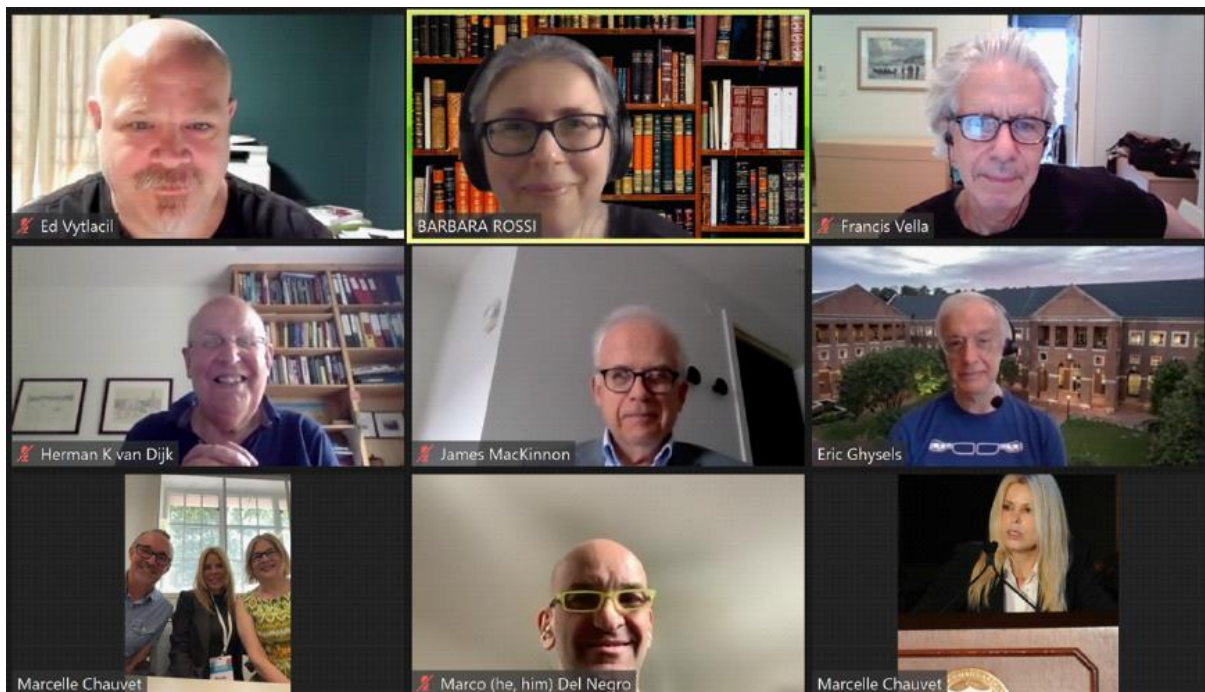https://onlinelibrary.wiley.com/page/journal/10991255/homepage/news.html#replication.

Barbara Rossi
Editor

JAE virtual editorial meeting on June 21, 2022

In this issue:

Abstracts of Forthcoming Articles

How is machine learning useful for macroeconomic forecasting? by Philippe Goulet Coulombe, Maxime Leroux, Dalibor Stevanovic and Stéphane Surprenant

We move beyond *Is Machine Learning Useful for Macroeconomic Forecasting?* by adding the *how*. The current forecasting literature has focused on matching specific variables and horizons with a particularly successful algorithm. To the contrary, we study the usefulness of the underlying features driving ML gains over standard macroeconometric methods. We distinguish four so-called features (nonlinearities, regularization, cross-validation, and alternative loss function) and study their behavior in both the data-rich and data-poor environments. To do so, we design experiments that allow to identify the "treatment" effects of interest. We conclude that (i) nonlinearity is the true game changer for macroeconomic prediction, (ii) the standard factor model remains the best regularization, (iii) K-fold cross-validation is the best practice, and (iv) the L_2 is preferred to the $\bar{\epsilon}$-insensitive in-sample loss. The forecasting gains of nonlinear techniques are associated with high macroeconomic uncertainty, financial stress and housing bubble bursts. Furthermore, ML nonlinearities are helpful when considering density forecasts.

Oil prices, gasoline prices, and inflation expectations by Lutz Kilian and Xiaoqing Zhou

It has long been suspected, given the salience of gasoline prices, that fluctuations in gasoline prices shift households' 1-year inflation expectations. Assessing this view empirically requires the use of dynamic structural models to quantify the cumulative effect of gasoline price shocks on household inflation expectations at each point in time. We find that, on average, gasoline price shocks account for 42% of the variation in these expectations. The cumulative increase in household inflation expectations from early 2009 to early 2013, in particular, is almost entirely explained by unexpectedly rising gasoline prices. However, there is no support for the view that the improved fit of the Phillips curve augmented by household inflation expectations during 2009–2013 is mainly explained by rising gasoline prices.

Covariate Distribution Balance via Propensity Scores by Pedro H. C. Sant'Anna, Xiaojun Song and Qi Xu

This paper proposes new estimators for the propensity score that aim to maximize the covariate distribution balance among different treatment groups. Heuristically, our proposed procedure

attempts to estimate a propensity score model by making the underlying covariate distribution of different treatment groups as close to each other as possible. Our estimators are data-driven and can be used to estimate different treatment effect parameters under different identifying assumptions, including unconfoundedness and local treatment effects. We derive the asymptotic properties of inverse probability weighted estimators for the average, distributional, and quantile treatment effects based on the proposed propensity score estimator and illustrate their finite sample performance via Monte Carlo simulations and an empirical application.

Recurrent conditional heteroskedasticity by Trong-Nghia Nguyen, Minh-Ngoc Tran and Robert Kohn

We propose a new class of financial volatility models, called the REcurrent Conditional Heteroskedastic (RECH) models, to improve both in-sample analysis and out-of-sample forecasting of the traditional conditional heteroskedastic models. In particular, we incorporate auxiliary deterministic processes, governed by recurrent neural networks, into the conditional variance of the traditional conditional heteroskedastic models, for example, GARCH-type models, to flexibly capture the dynamics of the underlying volatility. RECH models can detect interesting effects in financial volatility overlooked by the existing conditional heteroskedastic models such as the GARCH, GJR, and EGARCH. The new models often have good out-of-sample forecasts while still explaining well the stylized facts of financial volatility by retaining the well-established features of econometric GARCH-type models. These properties are illustrated through simulation studies and applications to 31 stock indices and exchange rate data. An user-friendly software package, together with the examples reported in the paper, is available at https://github.com/vbayeslab.

Early-life famine exposure, hunger recall, and later-life health by Zichen Deng and Maarten Lindeboom

We use newly collected individual-level hunger recall information from the China Family Panel Survey to estimate the causal effect of undernourishment on later-life health. We develop a two-sample instrumental variable (TSIV) estimator that can deal with heterogeneous samples. We find a nonlinear relationship between mortality rates and individual hunger experience. This nonlinear relationship may explain the variation in the famine's effect found in previous studies. We find that hunger exposure early in life leads to worse health among females 50 years later. This effect is much larger than reduced-form effects found in previous studies. For males, we find no impact.

How to estimate a vector autoregression after March 2020 by Michele Lenza and Giorgio E. Primiceri

This paper illustrates how to handle a sequence of extreme observations—such as those recorded during the COVID-19 pandemic—when estimating a vector autoregression, which is the most popular time-series model in macroeconomics. Our results show that the ad hoc strategy of dropping these observations may be acceptable for the purpose of parameter estimation. However, disregarding these recent data is inappropriate for forecasting the future evolution of the economy, because it may underestimate uncertainty.

Student Awards at the IAAE 2022 Conference

This year's IAAE conference attracted a great number of excellent submissions for the Student Award. I am glad to announce that this year's Best PhD Student Paper Award winners are

Niklas Schmitz (*University of Cambridge*)
for his paper
The Downside Risk Channel of Monetary Policy

and

Hugo Freeman (*University College London*)
for his paper
Multidimensional interactive fixed effects

The Honorable Mention Award was presented to

Pauline Corblet (*Sciences Po Paris*)
for her paper
Education Expansion, Sorting, and the Decreasing Education Wage Premium

and

Riccardo D'Adamo (*University College London*)
for his paper
Policy Learning Under Ambiguity

On behalf of the IAAE, I congratulate this year's awardees, and thank all submitters for participating!

Barbara Rossi
Editor

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Most Downloaded JAE Articles During 2021

Title	Authors	First Published Online
A simple panel unit root test in the presence of cross-section dependence	M. Hashem Pesaran	18 Apr 2007
A forecast comparison of volatility models: does anything beat a GARCH(1,1)?	Peter R. Hansen, Asger Lunde	30 Mar 2005
Computation and analysis of multiple structural change models	Jushan Bai, Pierre Perron	08 Oct 2002
Multivariate GARCH models: a survey	Luc Bauwens, Sébastien Laurent, Jeroen V. K. Rombouts	16 Feb 2006
Generalized autoregressive score models with applications	Drew Creal, Siem Jan Koopman, André Lucas	20 Jan 2012
Bounds testing approaches to the analysis of level relationships	M. Hashem Pesaran, Yongcheol Shin, Richard J. Smith	22 Jun 2001
Two are better than one: Volatility forecasting using multiplicative component GARCH‐MIDAS models	Christian Conrad, Onno Kleen	2 Nov 2019
Econometric methods for fractional response variables with an application to 401(k) plan participation rates	Leslie E. Papke, Jeffrey M. Wooldridge	Nov 1996
Simple solutions to the initial conditions problem in dynamic, nonlinear panel data models with unobserved heterogeneity	Jeffrey M. Wooldridge	03 Feb 2005
Does peer ability affect student achievement?	Eric A. Hanushek, John F. Kain, Jacob M. Markman, Steven G. Rivkin	30 Sep 2003

Top Five Most Cited Articles in the Last 3 Years (CrossRef)

Title	Authors	First Published Online
[Bounds testing approaches to the analysis of level relationships](#)	M. Hashem Pesaran, Yongcheol Shin, Richard J. Smith	22 Jun 2001
[A simple panel unit root test in the presence of cross-section dependence](#)	M. Hashem Pesaran	18 Apr 2007
[Computation and analysis of multiple structural change models](#)	Jushan Bai, Pierre Perron	08 Oct 2002
[Econometric methods for fractional response variables with an application to 401(k) plan participation rates](#)	Leslie E. Papke, Jeffrey M. Wooldridge	04 Dec 1998
[Mixed MNL models for discrete response](#)	Daniel McFadden, Kenneth Train	29 Dec 2000

Aims and Scope of *JAE*

The *Journal of Applied Econometrics* (published in seven issues per year) is a bi-monthly international journal, which aims to publish articles of high quality dealing with the application of existing as well as new econometric techniques to a wide variety of problems in economics and related subjects, covering topics in measurement, estimation, testing, forecasting, and policy analysis. The emphasis is on the careful and rigorous application of econometric techniques and the appropriate interpretation of the results. The economic content of the articles is stressed.

The intention of the *Journal of Applied Econometrics* is to provide an outlet for innovative, quantitative research in economics which cuts across areas of specialization, involves transferable techniques, and is easily replicable by other researchers. Contributions that introduce statistical methods that are applicable to a variety of economic problems are actively encouraged. The *Journal* also aims to publish review and survey articles that make recent developments in the field of theoretical and applied econometrics more readily accessible to applied economists in general.

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How to publish in *JAE*

The *Journal of Applied Econometrics* is published by John Wiley & Sons Ltd.

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Journal of Applied Econometrics Data Archive

The **JAE Data Archive** is a very important feature of the *Journal of Applied Econometrics*, making it possible for other researchers to replicate results of papers published in the *Journal,* or to evaluate alternative models.

Hosted by a server belonging to the Economics Department of Queen's University, it contains data for all papers accepted after January 1994, with the exception of a growing number of papers for which the data are confidential. There are some data for a few papers accepted earlier than January 1994, but Volume 10, No. 1 (1995) is the first issue in which all papers were accepted subject to the proviso that data be provided.

For some papers, especially more recent ones, the Data Archive also contains programs and supplementary material, such as technical appendices and additional graphs. There are currently directories for over 1300 papers in the archive.

It is still the case that, if you enter *any* of the following search terms into Google, the first hit you encounter is the main page of the *JAE* Data Archive:
econometrics data, *applied econometrics data*, *econometrics data archive*, *JAE data*, *JAE archive*.

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