

Euro Area Business Cycle Network Training School

# **Inference in Macro Models: From Big Data to Structural Analysis**

By

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**(Federal Reserve New York and CEPR)**

And

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**Hosted by: Universitat Pompeu Fabra (Barcelona)**

5-7 June 2019

**Deadline: 6pm (GMT), Friday 1 March 2019**

## **General Description**

We are pleased to announce details of the latest EABCN Training School; a three-day course titled “Inference in Macro Models: From Big data to Structural Analysis”. **Domenico Giannone** and **Giorgio Primiceri** will teach the course. It is primarily aimed at participants in the Euro Area Business Cycle Network but applications will also be considered from doctoral students, post-doctoral researchers and economists working in central banks and government institutions outside of the network, as well as commercial organisations (fees applicable for non-network organisations).

## Course Contents

This course covers methods designed to deal with prediction with “big data” in macroeconomics, and to conduct structural analysis. The three main subjects of the course are: (i) predictive regressions with big data; (ii) Bayesian VARs, as a popular example of big data multivariate models, which also represent a bridge between reduced-form and structural models; (iii) DSGE models, which have become the most popular tool for structural and policy analysis. We will also touch upon several other topics, such as state-space models, Monte Carlo methods, model comparison and model choice. Along the way, we will discuss applications to forecasting economic activity with large datasets, potential output and the natural rate of interest, scenario and counterfactual analysis. An approximate outline is as follows:

### Prediction with big data

(a) The curse of dimensionality: symptoms and cures; (b) Brief introductions to Bayesian inference; (c) Priors and their connection with regularisation and shrinkage techniques.

### VARs and BVARs

(a) Prior distributions and numerical techniques to sample from posterior distributions; (b) The selection of the regularisation parameter/prior tightness; (c) Unconditional forecast; (d) Conditional forecasts and scenario analysis.

### DSGE models

(a) Model specification; (b) Bayesian inference; (c) using DSGE models for counterfactual analysis and to estimate fundamental objects for the conduct of monetary policy, e.g. potential output and the natural rate of interest.

### How to apply:

The course will take place at Universitat Pompeu Fabra (Barcelona). Participants will be invited to make their own arrangements regarding their travel, accommodation and meals. Further information will be available to successful applicants.

**Candidates who have a CEPR profile should apply by submitting their CV online at <https://portal.cepr.org/eabcn-training-school-inference-macro-models-big-data-structural-analysis> .** If you do not currently have a CEPR profile, please create a new one [here](#) and then click on the registration link.

**PhD students should also send a statement that specifies the ways participating in the school will be useful for their current research (max 300 words).**

The deadline for submissions is **6pm (GMT), Friday 1 March 2019.**

If you have any issues logging in, please contact Mariolina Ciccone, Events Officer at CEPR, at [mciccone@cepr.org](mailto:mciccone@cepr.org) quoting “40034 - EABCN Training School June 2019” in the subject line.

Participants from non-academic institutions where the employer is not a member of the EABCN network are charged a course fee of € 2000.

#### **About the Instructors:**

**Domenico Giannone** is Assistant Vice President at the Federal Reserve Bank of New York. He holds a PhD from the Université libre de Bruxelles and has been an Assistant Professor at LUISS University of Rome and Professor at the Université libre de Bruxelles. He has also worked as an Economist at the Monetary Policy Research Division of the European Central Bank and has been the scientific coordinator of the Euro Area Business Cycle Network. Domenico is a research fellow of the CEPR, and an associate editor for the *Journal of Business and Economic Statistics*, the *Journal of Applied Econometrics*, the *International Journal of Forecasting*, and *Empirical Economics*. His main areas of research are time series econometrics, forecasting, monetary policy, and business cycles.

**Giorgio Primiceri** is a Professor of Economics at Northwestern University. He holds a PhD from Princeton University and was the recipient of a Sloan Foundation Research Fellowship. He is a research fellow of the CEPR and a research associate of the NBER, and a consultant for the Federal Reserve Bank of Chicago and the European Central Bank. Giorgio is also a co-editor of the *American Economic Journal: Macroeconomics* and a member of the Euro Area Business Cycle Dating Committee. His main areas of research are macroeconomics and applied time-series econometrics.