

Euro Area Business Cycle Network Training School  
**The Econometric Analysis of Mixed Frequency Data with  
Macro/Finance Applications**

by  
**Eric Ghysels**

**European University Institute  
Florence**

26 – 28 October 2011

**Deadline: Friday 19 August 2011**

### **General Description**

We are pleased to announce details of the latest EABCN Training School; a three-day course entitled “The Econometric Analysis of Mixed Frequency Data with Macro/Finance Applications”.

Professor Eric Ghysels 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 Detail**

Economic time series are sampled at different frequencies. Innovations in computer technology have made it possible to easily collect and store large data sets. One consequence of this is that many time series are recorded at very high sampling frequencies. Think of time series pertaining to financial markets that are available on a daily or even intra-daily basis. Yet, there are still many economic time series that are costly to collect and thus available at a lower frequency. Examples include many macroeconomic real activity series that have maintained the traditional monthly or quarterly collection and release scheme.

The course covers various empirical tools useful to academics and policy makers that allow for the analysis of mixed frequency data. We provide an introduction of so called MIDAS regressions – regressions that allow for mixed frequency data and contrast the approach with Kalman filtering – commonly used by central banks for the purpose of forecasting.

As an application the course will investigate whether and how higher frequency information can improve forecasts of macroeconomic activity and also show that the real-time use of financial data – or so called nowcasting - helps improve forecasts significantly and that this can be done relatively easy in comparison to the computationally more involved Kalman filter-based methods. MIDAS-related research and applications are being used in various central banks around the world, including the Federal Reserve – Board of Governors as well

as the regional banks, the ECB and other European and Asian central banks. Moreover, the Federal Reserve Bank of St. Louis *Review*, which is a bimonthly journal of national and international economic developments, particularly focusing on their monetary aspects, published a review article (so called Primer) on MIDAS written by economists of the Saint Louis Fed.

The course also covers methods to measure the long term impact of monetary policy shocks and elaborates on financial market volatility models that make use of both financial and macroeconomic series.

Some basic familiarity with time series econometrics and Matlab will be useful.

The course will be divided in 9 modules, two-thirds of the time to theory and methods and one-third to TA sessions with practical examples. The following programme outlines the structure of the course:

Wednesday 26 October:

- a. Module 1 (1.5 hours): Introduction to MIDAS regressions
- b. Module 2 (1.5 hours): The Kalman filter and Mixed Frequency data
- c. Module 3 (1.5 hours): TA session – Intro to Matlab and MIDAS Matlab toolbox

Thursday 27 October

- a. Module 4 (1.5 hours): Forecasting and nowcasting GDP growth
- b. Module 5 (1.5 hours): The long term impact of daily monetary policy shocks
- c. Module 6 (1.5 hours): TA sessions – MIDAS regressions in practice

Friday 28 October

- a. Module 7 (1.5 hours): Introduction to GARCH/HYBRID GARCH
- b. Module 8 (1.5 hours): GARCH/MIDAS models: Macroeconomic sources of volatility
- c. Module 9 (1.5 hours): TA session – Volatility forecasting.

### **Administrative Information**

The course will take place in Florence at the European University Institute and participants will be invited to make their own arrangements regarding their accommodation and meals. Further information will be available to successful applicants. Candidates should fill in the enclosed form and return it to CEPR's Meetings Manager, Nadine Clarke ([meets@cepr.org](mailto:meets@cepr.org)) by **August 19th, 2011**. **We ask that you send a current version of your CV with your application.** EABCN gratefully acknowledges the generous assistance from the European University Institute for this course.

### **About the Instructor**

**Eric Ghysels** is the Bernstein Distinguished Professor of Economics at the University of North Carolina - Chapel Hill and Professor of Finance at the Kenan-Flagler Business School. His main research interests are time series econometrics and finance. He obtained his Ph.D. from the Kellogg Graduate School of Management at Northwestern University. He has been a visiting professor or scholar at several major U.S., European and Asian universities. He gave invited lectures, including at the World Congress of the Econometric Society, the American Statistical Association Meetings, among many others. He was Resident Scholar at the Federal Reserve Bank of New York in 2008-2009 and Duisenberg Fellow at the European Central Bank in 2011. He is also the Founding Co-President of the [Society for Financial Econometrics](#) (SoFiE).