2-days Intensive Course – Applied Macroeconomics (12h)

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This intensive course aims to provide an in-depth introduction to the main econometric methods based on time series analysis to be used for conducting macroeconomic analyses. Specifically, we will start by studying the notions of stationarity and cointegration. We will study single equations techniques based on the autoregressive distributed lag (ARDL) model and its error correction representation. We will then move to econometric models based on systems of equations, such as the vector autoregression (VAR) model, the vector error correction model (VECM), and the structural vector autoregression (SVAR) model. We will also study more recent econometric techniques based on the Local-Projections (LPs) approach. Finally, we will apply all these methodologies to several macroeconomic topics, such as fiscal and monetary policies, and the Phillips curve.

Module 1 (6h) – Matteo Deleidi (1st day)

- Lecture 1 (4h) – Matteo Deleidi

1. Unit roots, and stationarity
2. Cointegration analysis, and Error Correction models
3. VAR and VECM models
4. Structural VAR model and identification strategies
6. Impulse Response Functions (IRFs)

- Lecture 2 (2h) – Antonino Lofaro: The impact of monetary policy on income distribution and aggregate demand: theories, facts, and estimates using SVAR (Software: RStudio; EViews 12)

Module 2 (3h) – Giovanna Ciaffi (2nd day)

- Lecture 1. The LPs approach and its application to fiscal policy research
- Lecture 2. Estimating fiscal multipliers using the LPs approach (Software: Stata 17)

Module 3 (3h) – Davide Romaniello (2nd day)

- Lecture 1. Inflation and unemployment: the evolution of facts and ideas
- Lecture 2. Estimating the Phillips curve and hysteresis effects using the LPs approach (Software: Stata 17)

Software: EViews 12; Stata 17; RStudio.
Dataset: Instructors will provide datasets.

Readings

The material used in the lectures is covered by more than one textbook. The main references are the following:

1. Angeloni, I., Kashyap, A. K., & Mojon, B. (Eds.). (2003). *Monetary policy transmission in the euro area: a study by the Eurosystem monetary transmission network*. Cambridge University Press.
2. Auerbach, A. J., & Gorodnichenko, Y. (2017). Fiscal stimulus and fiscal sustainability (No. w23789). National Bureau of Economic Research.

3. Cerra, V., Fatás, A., & Saxena, S. C. (2023). Hysteresis and business cycles. *Journal of Economic Literature*, *61*(1), 181-225.
4. Christiano, L. J., Eichenbaum, M., & Evans, C. L. (1999). Monetary policy shocks: What have we learned and to what end?. *Handbook of Macroeconomics*, 1, 65-148
5. Enders W. (2015) Applied Econometric Time Series. 4th edition. Wiley (Ch. 5 and 6)
6. Jordà, Ò. (2005). Estimation and inference of impulse responses by local projections. *American Economic Review*, *95*(1), 161-182.
7. Kilian, L., & Lütkepohl, H. (2017). Structural vector autoregressive analysis. Cambridge University Press. (Ch. 4 and 8)
8. Paternesi Meloni W., Romaniello D., Stirati A. (2022). Inflation and the NAIRU: Assessing the role of long-term unemployment as a cause of hysteresis, *Economic Modelling*, 113, 105900
9. Ramey, V. A. (2016). Macroeconomic shocks and their propagation. *Handbook of macroeconomics*, *2*, 71-162.
10. Stock J. & M. Watson (2015). Introduction to Econometrics. 4th edition. Pearson (Ch. 14).