

Course Projects for the Ph.D. course on Time Series Econometrics

(Only 5 Pages or 10 slides)

Due Date: The day of the Final Exam.

This year there will be four options for the course project:

- To replicate Stock-Watson JEP2021 VAR paper for a country you select (no the US).
- To program the Gonzalo-Granger decomposition proposed in “Estimation of Common Long Memory Components in Cointegrated Systems”, Journal of Business & Economic Statistics (1995), 13, 27-36. This should be done in Eviews. It could be done in R to form an add-in for Eviews or in Python. The project is suitable for at most two students.
- Elaborate the lecture notes on Spurious Regression and Cointegration.
- Global Warming: A SVAR for land and ocean temperature (Globe and NH-SH) plus CO₂.

Some Important Remarks for the VAR project (useful also for the Global Warming project)

1. Select a country with ”enough” data for the variables: inflation, unemployment and interest rates. Replicate the paper step by step and comment any important differences. [**10pts**]
2. Identification of the monetary shock via three identification schemes (short run, long run, sign restrictions, heteroscedasticity, etc.) Plot (or do some co- movement analysis) the three identified shocks and check if there are main differences. Does it really matter the identification scheme? [**10pts**]
3. Compare the standard VAR-IRF of the monetary shock with the IRF obtained via Local Projections (LP) under the different identification schemes. Any way of testing that they are the same? [**5pts**]
4. Test for unit roots and cointegration. Do your analysis suggest any modification from the previous VAR? [**2.5pts**]
5. Conclusion on how effective is the monetary policy. [**2.5pts**]