Workshop on Time Series Analysis

22 –25 May 2012

Seminar Room 2, Badia Fiesolana

Conducted by:
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Aims
This class should enable researchers to conduct time series analyses in Stata, knowing the different approaches available, and how to diagnose the models they specify.

Prerequisites
It is expected that researchers attending this class have experience with ordinary least squares (OLS) regression. Prospective members of the class who do not have this background should contact the lecturer by e-mail before registering for the class.

Format and Schedule
This class meets four times for 2.5 hours, 10:30-13:15 (including a 15 min. break). The format will be lectures, discussions, hands-on data analysis.

Readings
Readings are listed below which should be read before each class. Peter Kennedy's *Guide to Econometrics*, 6th (or 5th) edition, is the principal text. It is in the EUI library on reserve in multiple copies. Relevant portions from the 5th edition will be available as pdf files in a Dropbox folder, along with additional material – participants will be invited to this folder upon registration. Note that the chapter numbering of editions 5 and 6 differ (the reading list below refers to the 6th edition). Participants are strongly encouraged to obtain their own copy of Kennedy. A couple of articles from the dynamic representation literature will provide data for example analyses in class and will be made available through Dropbox.

Software
The class will employ the Stata statistical package. Participants should have a look at introductions to relevant Stata commands, which will be made available through Dropbox (although these can also be found within Stata).

Data and Participation

In addition to analyzing example data from the dynamic representation literature, researchers are encouraged to apply what is discussed in class to their own data between the classes (if this is relevant to their research). The last session will be open for discussing particular challenges researchers face in their analyses. Depending on the number of participants, researchers whose work relates to time series analysis are invited to give short presentations of their research.

Topics and readings

Day 1		The disturbance matrix
		Non-spherical disturbances
		Stationarity
		Basic time series commands and operators in Stata
	Readings:	Kennedy, Ch. 1-3, 8, 19, 20 (large text and General Notes)
		Bølstad (2012)
Day 2		Autoregressive integrated moving average (ARIMA) models
		Vector auto-regression (VAR) models
	Readings:	As before + Kennedy, Ch. 10, 11 (large text and General Notes)
		Toshkov (2011)
Day 3		Autoregressive distributed lag (ADL) models
		Non-stationarity and cointegration
		Error Correction models (ECM)
	Readings:	As before.
Day 4		Time series cross-section (TSCS) data
		Fixed effects vs. random effects
		Repetition: The main points – requests are welcome.
		Problem solving session: Bring your data and modeling issues – short presentations of research designs and challenges are welcome.
	Readings:	As before + Kennedy, Ch. 18.

For the 5th edition of Kennedy: Subtract 1 from chapter numbers above 8.

In other words, replace 10, 11, 18, 19, & 20, with: 9, 10, 17, 18, & 19.