

Panel Data Analysis

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Information

Ph. D (IMPA)

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You

- PhD&MSc Students
- Background

Aims of the course

- Introduce the distinctive features of panel data.
- Review some panel data sets commonly used in social sciences.
- Present the advantages (and limitations) of panel data, and consider what sort of questions panel data can(not) address.
- Show how to handle and describe panel data.
- Introduce the basic estimation techniques for panel data (linear and non-linear).
- Discuss how to choose (and test for) the right technique for the question being addressed.
- Discuss interpretation of results

Main Topics

- Introduction to Panel Data Models
- Linear Static Models for Panel Data
- Nonlinear Panel Data Models

Structure of course

- The course will consist on lectures and Stata implementations. Also, there will be Problem sets and Readings to be discussed in class.
- All students attending the class are expected to read the papers selected for each topic **in advance** and to participate in class discussions.
- Auditors (if any) are expected to do all of the assignments of regular students, except the mid term and final evaluations.
- Full lecture slides will be available on my web: <http://www.josefajardo.com/teaching/pd2019.htm>

Bibliography

Econometrics texts:

- Baltagi, B.H. (2005). *Econometric Analysis of Panel Data(3rded.)*,Wiley.
- Hsiao, C. (2003). *Analysis of Panel Data(2 ed.)*,Cambridge University Press,
- Wooldridge, J.M. (2002), *Econometric Analysis of Cross Section and Panel Data*, MIT Press (chapters 10 and 11 and sections 14.4, 15.8 and 16.8).
- Arellano, M. (2003). *Panel Data Econometrics*, Oxford University Press,

Bibliography

Stata-specific:

- Cameron, A. C. & Trivedi, P. K. (2009) *Microeconometrics Using Stata*, Stata Press
- Rabe-Hesketh, S. & Skrondal, A. (2008) *Multilevel and Longitudinal Modeling Using Stata(2nd ed)*, S. & A. , Stata Press
- Stata Corp (2009), *Stata Statistical Software: Release 11 : XT Reference Manual*, Stata Corporation.



Course Grading

- Problem set assignments and readings: 30%
- Mid term evaluation: 30%
- Research Paper presentation: 40%

Research Paper

- For most students, the most difficult part of the program is the search for a research topic.
- To acquire some experience selecting research topics, a main course requirement is to prepare a proposal for a project concerning issues we discuss in class.
- I hope that a set of research ideas will come to you as the course progresses.
- At the end of the quarter, you should target writing down and presenting a document containing:

Research Paper

- (1) One or two pages motivating the idea/research question. You want to identify a question, explain why it is important that we know more about
- (2) Once you motivate your research question, you need to think about the economics of your inquiry. This would probably take a page or two. For example, what are the tradeoffs involved? Should we expect to verify proposed effects using real world data? What are the exact methods we should use and why?
- (3) Anticipating the results: Based on priors, what results should be expected? (What if you find something else?) Discussing this should take a few paragraphs.
- (4) Add a literature review. In this profession, it is important that you recognize (and give due credit to) those who did prior research in the area you want to do your first paper. Do a fair (not aggressive, but still critical) review of the literature in no more than three pages. The emphasis should be on establishing your case that the "void" in the literature is worth pursuing. Try to organize the papers in a compare/contrast format. Like all you do in the paper, use this to motivate the importance of your research question.

Research Paper

- 5) Take a page or two to discuss "implementation issues" such as data availability, sample construction, programming needs, replicability, etc.
- 6) Have some preliminary results in the manuscript. These can be empirical results, simulations/calibrations, or anything that gives me hope that this is more than a bunch of nicesounding paper ideas that will never see the light of day.
- 7) A final, polished manuscript should be sent to me about one month after the class ends (20/4).

Final Remarks

- Classes: 22/01, 29/01
- Classes: 01/02(F), 05/02, 12/02, 19/02, 26/02
- Classes: 12/03, 19/03, 26/03

- 2 or more readings p/class
- Exam: 19/02
- Research presentations: 19/03, 26/03
- Research paper deadline document 26/04
