Course Outline 2020

UNIVERSITEIT STELLENBOSCH UNIVERSITY

Department of Economics

Aims and objectives

Part 1 of the course prepares you for empirical economic research using time series data as well as serving as an introduction to theoretical econometric work. To that end, we will formally derive the building blocks of all basic time series models complemented with practical applications using standard statistical packages.

Part 2 of the course will introduce and discuss the applicability of a range of models that act as alternatives to conventional OLS regressions. Models will be introduced in the lectures and applied in the tutorials. We will focus on the identification assumptions behind of each model - when these assumptions are likely to hold and when they are unlikely to hold. This will students with the skills necessary to determine which of these models will be most appropriate for their own work.

Having completed this course successfully a student will
- understand the problems associated with empirical research and some of the leading formal paradigms developed to address those problems;
- have experience in how to select and apply the correct approach;
- be able to understand and critique current empirical and theoretical research.

Lecturers: Gideon du Rand (convenor, gideondurand@sun.ac.za)
Part 1: Time Series Econometrics – Theory and Applications
Rm 503 C.G.W. Schumann Building
Tel: 021 808 2241

Dr Debra Shepherd (debrashepherd@sun.ac.za)
Part 2: Cross Section Econometrics Part – Section 1
Rm 504 C.G.W. Schumann Building
Tel: 021 808 2238

Dr Cobus Burger (cobusburger@sun.ac.za)
Part 2: Cross Section Econometrics Part – Section 2
Rm 608 C.G.W. Schumann Building

Lectures and Tutorials

Three lectures are scheduled per week:

Mondays 8:00 – 10:00
Wednesday s 8:00 – 10:00
Fridays 14:00 – 16:00

Which of these lectures will be used will be communicated by the latest the weekend before that week.

Some lectures will be used as tutorial sessions, during which practical illustrations of econometric techniques will be conducted using R (and/or Eviews) for the time series part and Stata for the cross section part.

Assessment

The course will be assessed by a midterm test and a final exam as well as two research projects. Smaller tutorial projects may be assigned during the course. The final course mark will be calculated as follows:

	Date	Weight in Final Mark
Time Series Test/Exam	31 March 2020	30%
Time Series Research Project	4 May 2020	20%
Cross Section Exam	May/June 2020	30%
Cross Section Research Project	May/June 2020	20%

In order to pass the course a student must have:

- A Final Course Mark of at least 50%
- A Test/Exam mark of at least 40% for *each* part of the course individually

The following rules govern the tests and exams in this course:

- The final exam will cover the entire course, but:
  - Students who miss/obtain less than 40% in the time series test are *required* to write on Part 1 in the exam.
  - Students who passed the time series test may use the exam to attempt to improve their marks.
  - In all cases, the highest of the first or second attempt becomes the final mark.
  - The final exam is the **LAST** opportunity to pass part 1.
- There will be a supplementary exam on part 2 for those who do not make the minimum passing requirements for the course in the exam.
  - In accordance with departmental policy, only students who have a calculated final course mark of at least 40% qualify for a supplementary exam.
  - This will be the **LAST** opportunity to pass part 2 of the course, and marks for this exam will be capped at 50%.
  - If a student is admitted to a supplementary exam with a final course mark of less than 50%, the final course mark is capped at 50%.
  - If a student is admitted to a supplementary exam with a final course mark of more than 50%, the final course mark cannot increase, regardless of the mark for the supplementary exam.

- The supplementary exam will also serve as the sick exam for students who passed the minimum requirements of the semester test but is sick during the final exam. To qualify for this sick exam students must submit a doctor's certificate that satisfies departmental rules.
- If a student misses/fails the test for any reason and is sick in the exam, that student will receive an incomplete and will have to repeat the course.

Research Projects

Two larger assignments will be handed out during the course of the semester. All assignments must be completed to the satisfaction of the lecturer involved in order to pass the course. Smaller class assignments may also be required during lectures. Details of these projects will be communicated by the lecturers involved during the course.

Textbooks

Part 1: Time Series Econometrics

The first part of the course will follow the prescribed text of the course closely (as well as referring to some journal articles)

Enders, Walter (2014) *Applied Econometric Time Series*, 4th Edition. John Wiley and Sons, Hoboken.

A very complete reference text is advisable for students who wish to specialise in time series econometrics, particularly in theoretical analyses or for the development of new methods:

Hamilton, James D. (1992) *Time Series Analysis*. Princeton University Press

Additional readings may be assigned throughout the course.

Part 2: Cross Section Econometrics

Angrist, Joshua D. and Pischke, Jörn-Steffen. 2009. *Mostly Harmless Econometrics*. Princeton University Press: Oxford.

Lecture topics in brief (provisional)

This lecture schedule is provisional and may be changed. All changes will be announced in advance.

Topic:	Readings:	Weeks:
Part 1: Time Series Econometrics – Theory and Applications (du Rand)		
1. Difference Equations, Univariate Stationary Time Series Models		2
2. Multivariate Stationary Time Series Models		2
3. Non-Stationary Time Series Models		2
4. Model Selection and Forecasting		1
Part 2a: Cross section Econometrics – (Shepherd)		
1. Discrete Choice Models		1
2. Survey Data Analysis		1
3. Static Panel Data Analysis		1
Part 2b: Cross section Econometrics – (Burger)		
1. Introduction to Endogeneity		1
2. Programme Evaluation Techniques		2