**International Economics
Development Economics**

Academic year 2019-2020

Advanced Econometrics

EI077 - Printemps - 6 ECTS

Monday 10h15 - 12h00

Course Description

The first part of the course will be concerned with the econometrics of qualitative and discrete choice variables, extending upto the generalised linear model setting and appropriate estimation methods in this context. The second part of the course will be concerned with the econometrics of panel data, starting with the fundamental fixed effects and random effects specifications, and going on to random coefficient, dynamic, qualitative and simultaneous extensions.

> **PROFESSOR**

Jayalakshmi Krishnakumar
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Office hours

> **ASSISTANT**

Monika Avila Marquez

Office hours

Syllabus

Part I

1. **Binary Choice (Qualitative Variables)**

2. **Counting Data models**

3. **Multiple and Sequential Choice Models (QV continued)**

4. **Generalized Linear Models and exponential families**

5. **The equivalence of GMM, GLS and Pseudo ML**

6. **Limited dependent variables: Selection Problems, Censoring and Truncation**

7. **Diagnostics: testing in QV models**

Part II

1. **Panel data and their advantages**

2. **Fixed Effects Models**
   a. Within (or LSDV) estimation of the coefficients
   b. Estimation and tests of specific effects
3. **Random Effects (Error Components) Models**
   a. Decomposition of the variance
   b. GLS Estimation : different procedures and properties
   c. Maximum Likelihood Estimation method and its properties
   d. Specification Tests (testing random effects, Hausman test)
4. **Random Coefficient Models**
   a. GLS Estimation of coefficient means
   b. Estimation and testing of random coefficient effects
5. **Dynamic Panel Data Models**
   a. Dynamic Fixed Effects Models
   b. Dynamic Random Effects Models
6. **Qualitative Response with Panel Data**
   a. Binary Choice Fixed Effects Models
   b. Binary Choice Random Effects Models
7. **Simultaneous Equations**
   a. Simultaneous Equations and Panel Data
   b. Simultaneous Equations with Qualitative Response