# Doctoral School in Economics and Finance

## DSEF    Doctoral Course on Matching Methods: Empirics

### 1.    Course details

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| Semester: | Summer semester 2021/22 |
| Credit rating: | 1 ECTS |
| Teaching units | 15 |
| Pre-requisite(s): | none |
| Lecturers: | Arnaud Dupuy (University of Luxembourg) |
| Administrator: | Roswitha Glorieux |
| Tutors: | None |
| Seminar times and rooms: | please see Point 3 |
| Tutorial times and rooms: | April 4, 6 and 7, 2022 |
| Communications | It is important that students should regularly read their University e-mails, as important information will normally be communicated this way. |
| Mode of assessment: | Short paper (10 pages) on a topic related to matching methods studied in the course to be discussed during final meeting with the instructor and fellow students. Are acceptable: survey papers, original research papers, replication papers or other types of papers to be agreed ex ante with the instructor. |
| Examination Periods: | TBA |
| Course WebPage: | Moodle.uni.lu |

**2. Aims and objectives**

Many markets can be described as two-sided matching markets. A two-sided matching market is characterized by highly differentiated agents on each side aiming at forming a pair with an agent from the other side so as to maximize his/her own utility. Prominent examples are the marriage market with heterogeneous men and women aiming at forming a match and the labor market where workers and firms aim at signing a work contract. Questions of importance in these markets are who matches with whom and why? This is the second part of the course which covers empirical applications. We first address the question of rationalization of the data and identification of the primitive parameters given different types of data. We then discuss inference and present several applications to the marriage market and the labor market.
Note that while it is preferable to have followed the first part of the course (given in odd year), it is not a pre-requisite, each part being self-contained.

**3. Plan of semester**

4 April 2022 14-17h ; 6 and 7 April 10-12h et 14h16h room CK A17

**4 Course details (by topics)**

1. Rationalization and Identification (5TU)
   a. Entropic penalization
   b. Gumbel distribution
   c. Identification with and without observed transfers, with and without singles
   d. With additional information: productivity and life satisfaction
2. Estimation (7TU)
   a. Maximum likelihood and method of moments
      i. Logit model of Choo and Siow
      ii. Beyond logit
      iii. Matching moments estimator and maximum likelihood estimator
   b. Applications to marriage and labor markets

Literature:

Chiappori, Oreffice and Quintana-Domeque (2012), Choo and Siow (2006), Dupuy and Galichon (2014), Galichon and Salanie (2016), Dupuy (2021), Dupuy and Weber (2021), Dupuy, Galichon, Jaffe and Kominers (2020).

**4 Further information about assessment**

Examination(s)

Weighting:                100%

Date:                     Tentative = April

Length:                   Short paper + presentation/discussion during final meeting.

| Structure: | To validate the course, you are supposed to write a short paper (10 pages) on a topic related to matching markets. This paper will be handed in to the instructor. The paper will then be discussed with the instructor and fellow students during a final meeting (time depending on class size). The paper must be handed in a week at the latest before the scheduled meeting with the instructor.  Are acceptable: survey papers, original research papers, replication papers or other types of papers to be agreed ex ante with the instructor. Collaborative work is encouraged but not compulsory. |
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