Syllabus for Experimental Economics II: Replications

Class website: http://homepage.ntu.edu.tw/~josephw/replication_26S.htm
Classroom and Time: Friday 2:20-4:20pm at Social Sciences 608 (社科 608 教室)
Instructor: Joseph Tao-yi Wang (josephw "at" ntu.edu.tw) Office: Social Sciences 754
Office Hours: Friday 4:20-5pm after class or by email appointment

This is an English capstone course of experimental economics at the upper division and graduate level, focusing on replications. The purpose is to computationally replicate several assigned experimental papers, and choose a particular paper to propose a replication experiment. You may present papers in groups of two, but are required to submit replication exercises and final reports individually. Specific course goals include:

1. **Present Contemporary Research**: Students are expected to read journal articles or working papers, evaluate their quality, present them, and provide feedback to others.
2. **Complete Replication Report**: Students are expected to run the author-provided code/data to computationally replicate journal articles and write replication reports.
3. **Design Replication Experiment**: Students are expected to design a replication experiment and propose a pre-analysis plan. To conduct the experiment, you should pre-register the pre-analysis plan on Open Science Framework or AEA RCT Registry.

Required and Recommended Reading:

1. List of papers to be replicated (varies every year).
2. Moffatt (2019), Experimetrics Lecture Notes for NTU mini-course. (Emt)
3. Gilad Feldman's replications website: http://mgto.org/pre-registered-replications/
4. Gentzkow and Shapiro (2014), "Code and Data: A Practioneer's Guide," *mimeo.*
5. Moffatt (2016), Experimetrics: Econometrics for Experimental Economics, Palgrave.
6. Instructions for Computational Reproducibility and Replication, Institute for Replication.

Assignments:

1. Replication Exercise (30%): Weekly replication homework for each experimetrics lecture.
2. Presentation (20%): Oral presentation and subsequent discussion of one paper.
3. Feedback (10%): Give feedback to other presenters and peer review others' plans.
4. Final Report (40%): Final replication report or pre-analysis plan due at final week.

Pre-Requisites: This is a capstone course in economics, which assumes you know material taught in intermediate micro/macro/metrics. You will also need basic knowledge of Experimental Economics I: Behavioral Game Theory, available on NTU OCW/Coursera and in Camerer (2003), Behavioral Game Theory, Princeton University Press (BGT). Knowledge of graduate econometrics is highly recommended, but past experience with STATA/Matlab/R is sufficient for the data analysis of computational reproduction.

Course Outline:

- [2/27] Holiday (Watch Basic Principles of Experimental Design (BGT A1.2) on OCW)
1. [3/ 6] Introduction to Replications and Computation Reproduction (Lin et al., 2020)
   - Introduction to Experimetrics and Power Analysis (Emt 1.1–1.3)
2. [3/13] Power Analysis with Real Examples and Monte Carlo (Emt 1.4, 2.1–2.3)
3. [3/20] Estimating Risk Aversion: Structural Models of Binary Lottery (Emt 3.1, 3.3-3.10)
   - Estimating Risk Aversion: Analyzing Ultimatum Game Data (Emt 3.2, 3.11)
4. [3/27] Estimating Social Preferences (Emt 4.1–4.3)
- [4/ 3] National Holiday Long Weekend
5. [4/10] Experimental Software and Pre-Analysis Plan (by TA at TASSEL)
6. [4/17] Finite Mixture Models: Level-k Models, Cognitive Hierarchy and
   - Social Preferences for Public Goods (Emt 5.1-5.5, Experimetrics 17.3)
7. [4/24] Computational Reproduction (by TA; Andersen et al. 2011 via Jupyter Notebook)
- [5/ 1] Labor Day Holiday (Midterm Pre-analysis Plan Submission)
8. [5/ 8] Estimating Repeated Game Play and QRE (Experimetrics 16.1–16.6)
9. [5/15] Learning (BGT6); Estimating Learning (Experimetrics 18.1–18.8)
10. [5/22] Final Replication Report Presentation; Coordination (BGT7)
11. [5/29] Final Replication Report Presentation; Signaling and Reputation (BGT8)
12. [6/ 5] Final Replication Report Due

Sample Papers for Computational Reproduction:

1. Andersen, Ertaç, Gneezy, Hoffman and List (2011) "Stakes Matter in Ultimatum Games," *American Economic Review*, 101(7), 3427-3439. (via Jupyter Notebook)
2. Saccardo and Serra-Garcia (2023), "Enabling or Limiting Cognitive Flexibility? Evidence of Demand for Moral Commitment," *American Economic Review*, 113(2), 396-429.
3. He, Analytis and Bhatia (2022), "The Wisdom of Model Crowds," *Management Science*, 68(5), 3635-3659.
4. Lin, Brown, Imai, Wang, Wang and Camerer (2020), "Evidence of General Economic Principles of Bargaining and Trade from 2,000 Classroom Experiments," *Nature Human Behaviour*, 4(9), 917-927.