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# Experimental and Behavioural Economics

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**Abstract**

The course is an elective one and has several related goals. First, it introduces students to the field of behavioural economics — a discipline which combines insights from economics and psychology,as well as others, like sociology or political science, to understand the nature and motives of human behaviour in individual and interactive decision making. This discipline, like any contemporary study in the field of social sciences, is based on rigorous analytical foundations, which shall be studied in our course from the very first principles (rational decision theory) to the foundations of interactive decisions, economic and social institutions, and elements of mechanism design.

Secondly, what makes any theory scientific, is its testable implications. At odd with the wisdom of traditional economics, experimental methods are not just possible but sometimes necessary to decide which of the competing theories is most adequate descriptively. We discuss the principles of experimental methods and their applications in the lab, field and nature, and their use to test alternative descriptive theories of human behaviour. Lab experiments (and participation in these) will be intergal part of the course, and will contribute to course grading.

A final, related goal is to put this knowledge into practice: course participants will be require to set up and implement an original research project in small groups of 2–4 members. Topics can be any empirical research in social sciences (broadly defined), to be developed from the first principles (how to choose a good topic for research? what makes a project interesting?) to research setup (what is a proper research hypothesis? how to embed the project into the literature?), scientific methods (how to build a theoretical model? how should it be connected to the empirical part?), research strategy (which experimental design to choose? what it makes to construct a good questionnaire?), statistical analysis (what is the difference between parametric and nonparametric methods? which technique should I use?) and conclusions. These steps shall be worked out using real-life cases — empirical projects chosen, designed and conducted by the students during this course.

**Prerequisites:** Microeconomics, Macroeconomics, good Math and English skills.

**Learning Objectives and Outcomes**

Course objectives are:

1. Familiarize students with contemporaryexperimental and empirical studies of human behaviour which emerged as a result of interdisciplinary research in economics, psychology and other social sciences;

2. Develop critical thinking and working skills with contemporary research literature.

3. Enhance their creativity and capability to conduct indepdenent research in the field of behavioural and social sciences, data analysis and interpretation.

The student should be able to apply professional knowledge and skills acquired while studying the course in practical areas, including academic research, work in financial institutions, industry, state governance.

**Methods of Instruction**

Methods include lectures and classes. Course project will constitute a substantial part of the final grade, and will be debriefed regularly with the course instructor. Project progress report will be counted as course midterm, and presentation of project results will be (physically) part of the final exam.

The course will largely be interactive, and draws heavily on empirical results. Many of them shall be discussed in the class, and some obtained with the participation of the students. It is thus imperative that students attend the classes and participate in the class experiments, complying with the experimental rules as necessary. Home assignments shall be handled weekly, and will consist of theoretical problems as well as readings, deliberation and debriefing on particular issues to be discussed in the class. Short quizzes for about 10 min will also be conducted regularly, and contribute to the grade. Feedback on the lectures and classes, as well as ongoing discussion of the issues considered shall be organized as necessary, and students are kindly requested to provide them.

Research projects are to be developed according to the following steps

Step 1 : Idea of research

1. How to understand the world around you and yourself? Ideas of a research project

2. Necessary ingredients of a research project: issue, contribution, hypotheses, methods

3. Theory and experiment

Step 2 : The role of assumptions

1. Rationality assumption: why do we need it?

2. Utility and belief elicitation

3. Saliency: incentives schemes

4. How to choose subjects for your project?

Step 3 : Hypotheses testing

1. Hypotheses: prediction and testing.

2. Simple (quasi) experiment: testing against the null.

3. Experiment per ce: treatment and control groups

4. Kind of experiments

5. Analysis of experimental data using Stata/R.

Step 4 : Experimental design.

1. Treatment vs control group.

2. Examples of experimental data analysis using Stata and R.

3. Sample hypotheses testing using project data

4. Survey/experimental design

5. Simulation of results using artificial data.

Step 5 : Project development

1. Bringing hypotheses to data: collection and measurement

2. Data pitfalls: How much should you trust your data?

Step 6 : Data analysis and interpretation

**Grading System and Knowledge Assessment**

The course will be graded as follows:

25% Classwork, quizzes and home assignments.

25% Research project, including literature review (5%), quality of research problem and hypotheses (5%), data collection (5%), analysis and interpretation (5%), presentation of preliminary (5%) and final (5%) results.

50% Final examination.

In addition, up to 10% may be earned for the classroom activities, including performance-based participation in economic experiments.

Sample materials for knowledge assessment are available in ICEF Information system at https://icef-info.hse.ru.

**Required reading**

There is one major text for the course:

Nick Wilkonson, Matthias Klaes. An introduction to Behavioural Economics. 2nd ed., Palgrave Macmillan, 2012.

**Optional reading**

Readings for each topic will be listed specifically.

**Special Equipment and Software Support**

Laptop, projector, Internet connection

MS Word, MS Excel, Stata

**Course plan**

Introduction

Course presentation

1. What is Behavioral Economics about 2. Course structure, contents, resources and grading. 3. Expectations and aspirations

Theme 1 Rationality and human behaviour Assumption of rationality in Economics and Psychology. Definitions of rational behaviour in economics. Preference ordering, revealed preferences, choice and utility functions.

Theme 2 Economics and psychology: heuristics and biases paradigm. Neuroeconomics and interdisciplinary approach to human behaviour. Definition of rational behaviour and deviations from it. Cognitive heuristics: examples and classroom experiments. Ecological rationality: Gigerenzer vs. Tversky-Kahneman. A ‘neuroeconomics revolution’.

Theme 3 Theory of choice under risk: EUT, PT and beyond. Ordinal, cardinal, interval utilities. Expected utility: from Bernoulli to vNM. vNM representation theorem and properties of expected utility. Allais paradox and generalized EUT: Prospect theory, RDEU.

Theme 4 Experimental design Design of experiment and its properties. Statistical methods of experimental data analysis: parametric and nonparametric. Microeconometric methods and models. Data analysis.

Theme 5 Dynamic choice. Intertemporal preferences: from Strotz to Machina's mom. Hyperbolic discounting. Multiple selves representation and its economic implications. Temptation.

Theme 6 Interactive decisions: games and their empirical tests A recap/synopsis of Game Theory. Games in normal and extensive form. Equilibrium concept. Ultimatum game, trust game, centipede, Russian roulette. Experiments.

Theme 7 Group decisions and social preferences Social dilemmas: public goods game, coordination game, and methods of boosting up cooperation.

Theme 8 Market experiments and mechanism design Market structures and experimental tests. Auctions. Role of information: financial markets. Efficiency of alternative institutions and elements of mechanism design.

Theme 9 Conclusion: Project results' presentation and sum up.