

# Behavioral Economics (YSS3203)

Semester II, 2021-2022

## 1. Module Description

Behavioral economics studies how psychological limitations affect economic decision makings. It attempts to obtain a map of bounded rationality by exploring systematic biases in the decision-making process and how those decisions vary from those implied by classical economic theory. It stresses the need to incorporate psychological thinking into economics and thus provides more realistic foundations to explain why people might make *seemingly* irrational choices.

This module covers four key topics of behavioral economics. They are:

- 1) Judgment under risk and uncertainty (heuristics and biases)
- 2) Decision making under risk and uncertainty (loss aversion, probability weighting function, endowment effect, reference dependent utility)
- 3) Behavioral games (altruism, fairness, reciprocity, envy, intention, limited strategic thinking).
- 4) Decision making across time (self-control, hyperbolic discounting, timing preference)

Throughout the course, we will use evidence from financial market, saving behavior, labor market and other areas to show how behavioral economics can be fruitfully applied to yield important insights into behavior under different settings. Overall, this module aims to help you develop skills on:

- 1) How to incorporate psychology to explain economic behaviors and,
- 2) How to apply behavioral economics to various economic and business settings.

**Please take note that prior knowledge in intermediate microeconomics is required to understand the topics taught in this module. In particular, you should have learned (or, at least, been introduced to) the following microeconomics theories: 1) decision under uncertainty (expected utility theory), 2) game theory, 3) adverse selection and 4) moral hazard.**

## 2. Assessment

Your final grade will be based on the following components:

- 10%: Class Participation
- 10%: Group Homework
- 15%: Mid-term test
- 10%: Group Presentation
- 15%: Group Project
- 40%: Final Examination

### ***Group Presentation***

Each group is required to give 2 presentations on assigned journal articles and be the critiques of 2 presentations given by other groups. Quality of your presentations and your interactions with other presenting groups as the critiques are graded. Each presentation will last approximately 25 minutes including Q&A. The presentation should contain two parts:

#### 1) Summary of readings:

- What specific research questions are?
- What are the main research methods employed to address the research questions?
- What are the important findings of the paper?

#### 2) Discussion:

- Questions specific to the papers: What is good about the paper?
- Broader economic questions: What have we learned?
- Further questions: What can be done to improve the research further? (this could be used to design your group project, i.e., group research proposal)

### ***Group Homework***

There are 5 graded group assignments to be completed. Grading will be based on effort.

### ***Group project***

Each group is required to submit a group project (10-15 pages, font size 12; double line spacing; due date 22<sup>nd</sup> April, 2022). As behavioral economics emphasizes on the interplay between theory and experimental/empirical evidence, your project could be about theory, experiment, or both. Based on experience, most of the proposals are about experiments. Some students proposed experiments to

test the theories presented in class or learnt in other modules; others proposed a way to apply behavioral economics in the field. When you have chosen your topic, you must come talk to me about it to obtain approval.

You are expected to discuss the topic you have chosen in detail, present an experimental design, discuss your hypotheses and how you would analyze the data that you would obtain. You do not have to run the experiment.

If you are interested in theory, you can discuss with me in person. You do not have to develop the full models/results. However, you do need to present your idea in detail. Your group project should contain two parts:

1) Literature review:

- What is the specific research question in your mind?
- The state of the field up to the point, both theoretical and empirical.

2) Your contribution:

- Provide specific hypotheses.
- Discuss what is needed for the implementation of your idea.
- Possible data and specific results.

A sample group project will be uploaded on Canvas.

### ***Class Participation***

Class participation is important and is highly encouraged. Attendance will be taken during the class. Your discussions with presenting groups will be considered as part of the participation grade.

### ***Final Examination***

We usually present three components for each topic during lectures: theory, experimental/empirical evidence, and applications. The examination will be designed to test your understanding on the following:

- (1) whether and how an experiment could falsify a theory, e.g., Allais paradox falsifies expected utility.
- (2) whether and how a theory could explain an experiment, e.g., prospect theory explains Allais paradox.

(3) how to apply behavioral economics to domains such as labour market and financial market, e.g., reference dependent preference to labour market: the New York Cab Driver example.

There will be one mid-term test that covers the materials from Week 1 to Week 5. The final exam will include all topics taught during the semester. The examinable contents include lecture notes, required readings and assigned group presentations.

### 3. Module Outline

#### Week 1: Introduction to behavioral economics

- Bounded rationality
- Two cognitive systems
- Framing effect
- Methodology: laboratory experiment, field experiment and neuroeconomics
- Review of Probability Theory

#### Week 2: Heuristics and biases

- Representativeness heuristics
- Availability heuristics
- Confirmation heuristics
- Confirmation bias
- Overconfidence

#### Week 3-5: Decision making under uncertainty

- Expected utility theory and risk preferences
- Prospect theory
- Endowment effect
- Reference dependent preference

#### Week 6-9: Decision making involving others

- Game theory and behavioral evidence
- Other-regarding preference
- Strategic thinking
- Review of principal-agent problem
- Gift exchange
- Dark side of incentive

#### Week 10-12: Decision making across time

- Hyperbolic discounting

- Self-control
- Behavioral Economics of saving behaviour

Week 13: Behavioral economics of poverty and presentations on research proposal

**Instructor:** ZHANG Jianlin

**E-mail:** YNCJZ@nus.edu.sg

**Office hours:** by appointment via Zoom