

Written Exam at the Department of Economics summer 2021

Behavioral and Experimental Economics

Final Exam

August 23, 2021

(2-hour closed book exam)

Answers only in English.

This exam question consists 5 pages in total (including cover 2 pages)

Falling ill during the exam

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- submit a blank exam paper.
- leave the examination.
- contact your GP and submit a medical report to the Faculty of Social Sciences no later than five (5) days from the date of the exam.

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- Make use of exam aids that are not allowed
- Communicate with or otherwise receive help from other people
- Copy other people's texts without making use of quotation marks and source referencing, so that it may appear to be your own text
- Use the ideas or thoughts of others without making use of source referencing, so it may appear to be your own idea or your thoughts
- Or if you otherwise violate the rules that apply to the exam

Question 1: Markets

Markets can be organized in many ways and their properties depend on various characteristics. Experiments can shed light on the determinants of efficiency and “market failure”.

- a) Vernon Smith (JPE 1962) implemented the oral **double auction** (DA) with stationary replication to test propositions from competitive markets theory and to study properties of real markets organized as DA. What is the main proposition of standard theory concerning “efficiency” in competitive markets? How is “efficiency” measured in this experiment, and how do observations compare to the predictions of competitive markets theory? Are the experimental results surprising?
- b) How does a “**Pit market**” (*Hint:* think of a Bazaar) differ from a double auction (DA) market, and how do typical results from such markets compare to the results observed in the DA?
- c) Smith, Suchanek and Williams (ECMA 1988) experimentally studied trading in stylized **stock markets** and find that prices do not follow fundamentals as predicted by standard theory. Explain the typical pricing patterns and discuss why they may be observed. (*Hint:* refer to how such markets differ from double auction markets and to the role of expectations)
- d) How does the number of firms competing in **oligopolistic markets** (“Cournot competition”) affect consumer surplus and efficiency in standard theory? Do experiments support this view? Is it necessary that firms actually enter the market to induce the effect? (*Hint:* refer to Gächter, Thöni and Tyran, JEE 2006)
Are experimental duopoly markets more or less competitive than predicted? Why? (*Hint:* refer to Huck, Normann, Oechssler JEBO 2004)
- e) Some markets are beset by “**quality uncertainty**” in the sense that buyers are uncertain whether they will receive high or low quality for a given price from sellers (for whom it is more costly to produce high quality goods).
Huck, Lünser and Tyran (GEB 2012) experimentally test the efficiency effects of two conditions to reduce inefficiency. Explain the design, hypotheses and main results.

Question 2: Money illusion and the indirect effects of bounded rationality

- a) What role does “**money**” play in standard microeconomics? How are prices defined in the standard model of consumer choice? What does standard theory assume about the consequences of simultaneously doubling nominal prices and incomes?
(*Hint:* $f(\lambda x) = \lambda^r f(x)$)
- b) Why do people use money and why is **thinking in nominal terms** about economic transactions common?
- c) Can people **avoid falling prey** to “money illusion”?
(*Hint:* refer to system 1 vs. 2)
- d) Agell and Bennmarker (2003) ran a survey among Swedish human resource managers on the **acceptability of wage cuts**.
Describe the variation between the two scenarios that were randomly presented to respondents. What is the main result of comparing the two scenarios? Provide a psychological explanation for why the effect was observed.

- e) A limitation of the survey evidence cited in the previous question is that it cannot easily distinguish between **direct and indirect effects** of money illusion. Explain what is meant by these effects and why this is so in the scenario in question d).
- f) How does the design of the experimental study of **Fehr and Tyran (GEB 2007)** correct for the limitation discussed in e)? Briefly describe the game and its three (pure-strategy) Nash equilibria.
(*Hint:* refer to pareto-rankability in nominal vs. real terms). What do the authors find?
- g) Consider a **guessing game** in which subjects choose numbers between 0 and 100 with $n > 2$ players and $1 > p > 0$. How is p related to indirect effects of bounded rationality?
(*Hint:* compare the case above to $-1 < p < 0$).

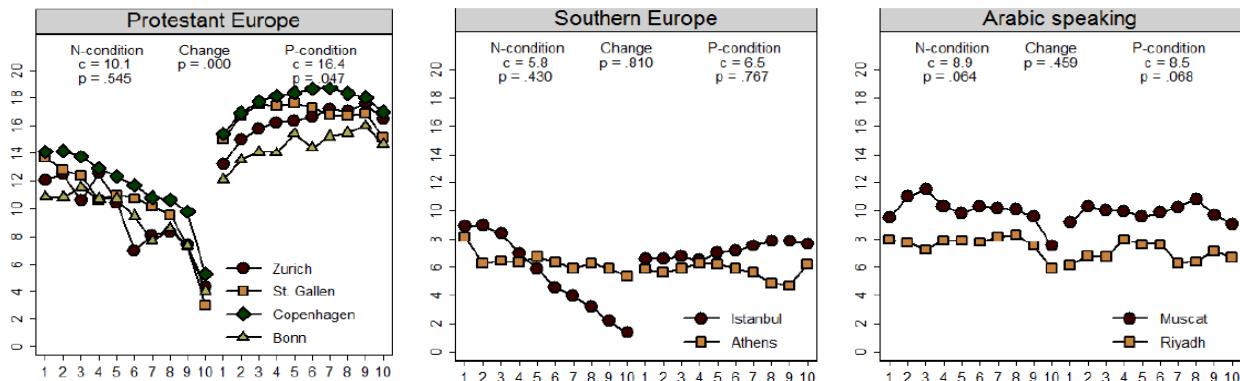
Question 3: Fairness and institutions

Much evidence suggests that people are heterogeneous with respect to social preferences and fairness ideals. Experiments can shed light on the nature and consequences of this heterogeneity.

- a) Evidence from the dictator game has often been cited as showing that people have heterogeneous prosocial preferences, and that few dictators choose an equal split when sharing money with a stranger. In contrast, evidence from **Ultimatum games** shows that the equal split is common. Why do we see a difference in sharing behavior in these games? (*Hint:* refer to differences in strategic incentives)
- b) Prasnikar and Roth (QJE 1992) study the **multi-proposer Ultimatum Game** to show that competition (between proposers) can importantly shape how given (pro-social) preferences are transformed by incentives. Explain the design and discuss their results.
- c) **Almas, Cappelen and Tungodden (WP 2019)** use an online redistribution experiment to shed light on the question why there is more (net) income inequality in the U.S. than in Scandinavia. (*Hint:* The design involves two “workers” and a “spectator” who make choices in 3 main treatments called Luck, Efficiency, and Merit).
 - c1) How do the three treatments differ?
 - c2) The authors argue that differences in “**fairness views**” are a potential explanation for differences observed in income inequality in the US and in Scandinavia. Explain the three views considered by the authors and what they imply for spectator choices in the respective treatments.
(*Hint:* Think of which aspect of “fairness” these views are supposed to capture)
 - c3) What are the **main results** of the study? Name 3 results. (*Hint:* refer to similarities and differences in responses across the countries. The authors also elicit individual characteristics of respondents)
 - c4) Almas et al. (2019) is an example of an **online experiment**. Name one advantage and one limitation of doing such an experiment online vs. in the laboratory.
 - c5) Good research answers at least one question, but other questions remain unanswered and the results often raise new questions. Discuss two **open issues** in Almas et al. (2019).
(*Hint:* name reasons other than fairness preferences for why the US may have less redistribution than Norway, or refer to proximate vs. ultimate causes)

- d) **Free-riding in cooperation games** is considered unfair by many. The extent to which free-riding is observed depends on institutions and the incentives they generate. Gächter, Herrmann and Thöni (Science 2008 and 2010) investigate cultural and institutional determinants of cooperation. In the figures below, phase 1 (periods 1-10) is a standard linear public goods game, phase 2 is a peer punishment game.

- d1) What is the **prediction** of standard theory for phase 2? Explain.
d2) How do the authors explain **variation in efficiency across countries** in phase 2?
(Hint: refer to norms of civic cooperation and rule of law)



Question 4: Democracy

It has been claimed that a “dividend of democracy” can be obtained through positive information aggregation in majority voting.

- a) Explain the **information aggregation** effect using an example of a common interest situation with $n = 3$ voters where each voter has a probability of $p_i = 0.6$ to make the correct choice. Assume that abstention is not allowed and voters cast their votes independently and sincerely.
(Hint: Condorcet Jury Theorem)
- b) How is information aggregation related to the “**wisdom of the crowds**” and “inclusive democracy”?
(Hint: refer to variation in n)
- c) **Morton, Piovesan and Tyran (GEB 2019)** experimentally investigate information aggregation in voting by letting people vote on the correct answers to quiz questions, some of which are easy, some are “hard”. The authors compare outcomes in an “opinions” treatment (OT) vs. a baseline treatment (BT). Explain how this treatment comparison speaks to what the authors call “the dark side of the vote”?
(Hint: describe the treatment difference first and then refer to p_i)
- d) **Mechtenberg and Tyran (GEB 2019)** study information aggregation in a setting in which subjects can delegate a choice to an expert or can demand to make the choice themselves by majority voting.
The authors investigate the extent of “rational ignorance”. What does this expression mean in the context of their experiment?
(Hint: Refer to the cost of information acquisition).