

## BEE3049

Behaviour markets and decisions  
Methods in experimental  
economics

## How to run an experiment

1. Purpose
2. Design
3. Subjects
4. Instructions, test rounds
5. Pilots
6. Recruitment
7. Payments
8. Statistical evaluation

## Purpose (Roth)

- Speaking to theorists
  - Forward vs backward induction
- Searching for facts
  - Are economics students different?
- Whispering in the ears of princess
  - Roth and kidney exchange
  - Test bed, wind channel, Grether and Plott: testing existing market institutions
- Which hypothesis do you want to test?

## Design of a session

- Simplicity, transparency and control vs realism
  - Internal vs external validity
- Game character
- Time limit
- “independent observations”
- Learning vs one-shot games, repetitions, which do count?
- Honesty
- Payment
- No need to use computers!

## Design of an experiment

- HOW MANY SESSIONS?
- BUDGET CONSTRAINT!
- Focus vs nuisance variables
- Treatment variables
- Keeping nuisance variables constant
- Randomization design
- Block design
- Fractional factorial design
- Ensure that enough subjects show up on time!

## Subjects and room

- Typically: students
- “Practitioners” will bring their experience to the lab
- Don't pay executives!
- “field” experiments
- Prevent uncontrolled communication and exchange of information (video experiments)

## Instructions, test rounds

- The biggest bore, necessary like in a new parlour game
- Clarity of instructions is crucial
- Avoid jargon, misinterpretations, allusions to the real world
- Foreign languages
- Don't bias subjects by giving away the purpose of the experiment!
- Test questions
- Test rounds

## Pilot sessions

- Necessary to check for bugs, both in software, design and instructions
  - Typos
  - Incorrect implementation
  - How expensive will it get?
  - Time length.

## Recruitment

- Now all computerized, we get our experiments filled within hours
- Possibility to restrict access to certain groups

## Payments

- Payment = money
- Payoff = utility
- Controlling for risk aversion (Roth, Moulaf), risk avoidance
- Controlling for fairness and spite
- Not every round has to be paid
- Keep it secret!

## Statistical evaluation

- Descriptive statistics
- Often there are no established theories or these are themselves in question
- Keep it simple, use non-parametric statistics: Binomial test, sign test, Wilcoxon test, Fisher test, Spearman's rank correlation test
- All parametric and econometric tests have many more auxiliary assumptions, also probit and logit approaches
- Testing initial hypotheses vs generating new knowledge.