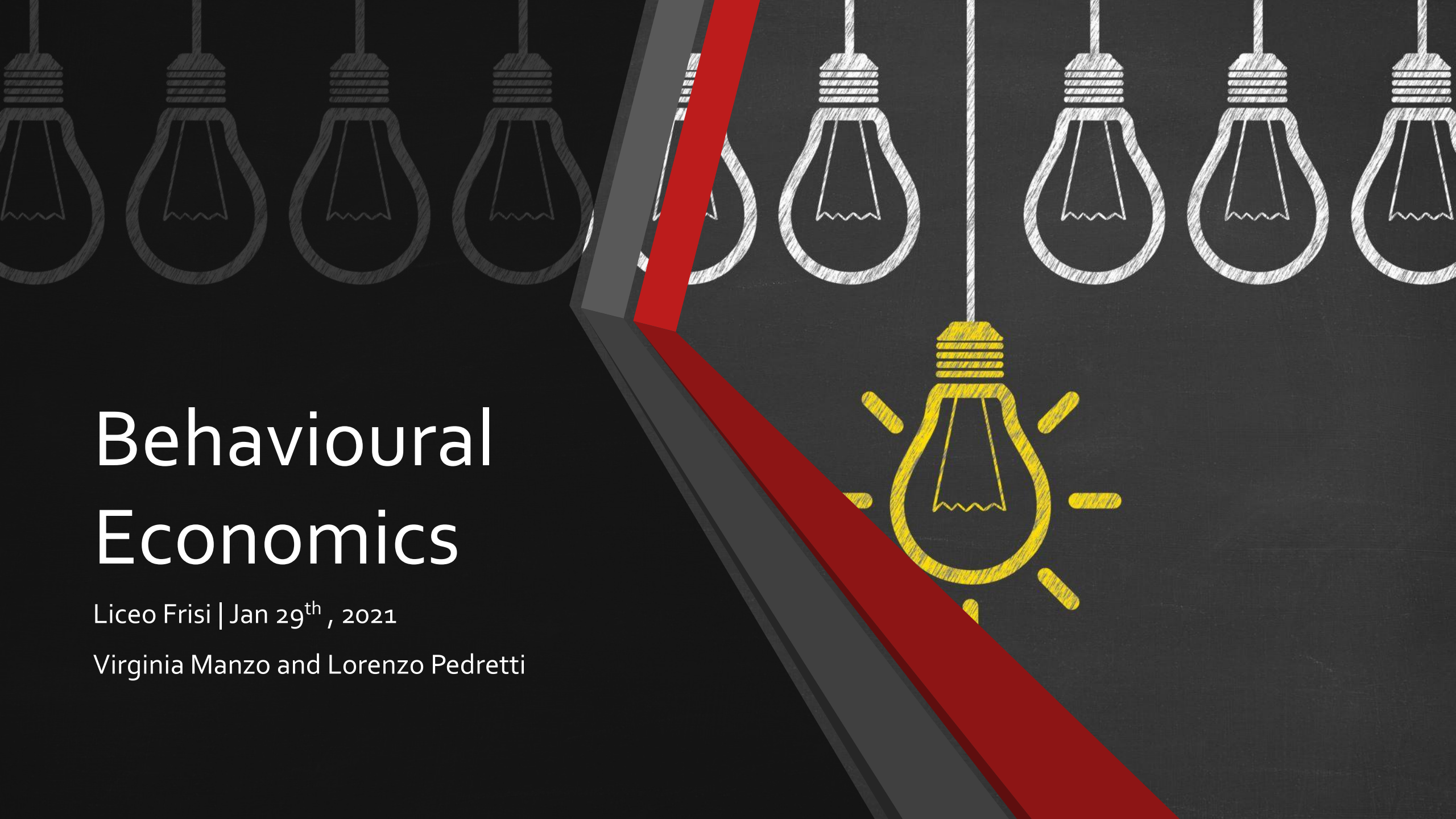


Behavioural Economics

Liceo Frisi | Jan 29th , 2021

Virginia Manzo and Lorenzo Pedretti

about us

VIRGINIA MANZO: STUDENT @ BESS UNIBOCCONI

LORENZO PEDRETTI: STUDENT @ BESS UNIBOCCONI, FORMERLY AT LICEO FRISI

Gambler's fallacy

- You flip a fair coin 10 times
- You get
  - 10 heads
- What is the probability that flipping the same coin an eleventh time you get another head

$$P(11H|10H) = P(1H)$$

Gambler’s fallacy

- The chance of having one bomb on a plane is very small
- The chance of having two bomb on a plane is null
- Hence, you should bring a bomb

Overconfidence or biased estimates lifetime odds of death by cause (US 2018)

Cause	Odds
Hearth disease	1 in 6
Cancer	1 in 7
Cataclysmic storm	1 in 54,699
Dog attack	1 in 118,776
Passenger on an airplane	Too few deaths

another example

Bill is 34 years old. He is intelligent, but unimaginative and compulsive. In school he was strong in math, but weak in humanities. Rank the following from the most to the leas likely:

1. Bill is a physician who plays poker
2. Bill is an architect
3. Bill is an accountant
4. Bill is an accountant who plays jazz
5. Bill plays jazz
6. Bill is a reporter

Hedonic editing

- Mr A was given tickets to 2 lotteries. He won $50 in one lottery and $25 in the other. Mr B was given a ticket for another lottery and won $75.
- Who was happier? (Thaler 2008)

Some instructions:

- **No communication** with other people during the experiments are allowed!
- **No comment are allowed!**
- **You can’t take any note or write** the problems, the procedure of solving and the results either on a piece of paper or on electronic devices

sli.do

Go to:

https://www.sli.do/

and enter the code:

#17025

[Problem 1]: Imagine that the U.S. is preparing for the outbreak of an unusual Asian disease, which is expected to kill 600 people. Two alternative program to combat the disease have been proposed. Assume that the exact scientific estimate of the consequences of the programs are as follows:

- PROGRAM A: 200 people will be saved
- PROGRAM B: there is 1/3 probability that 600 people will be saved and 2/3 probability that no people will be saved.

[Problem 2]: Imagine that you face the following pair of concurrent decisions. First examine both decisions, then indicate the options you prefer.

DECISION (1) CHOOSE BETWEEN:

- A: a sure gain of €240
- B: 25% chance to gain €1000 and 75% chance to gain nothing

DECISION (2) CHOOSE BETWEEN:

- C: a sure loss of €750;
- D: 75% chance to lose €1000, and 25% chance to lose nothing

You can choose:
AC – AD – BC –BD

[Problem 3]: Which of the following options do you prefer?

- A: a sure win of 30€
- B: 80% chance to win €45

[Problem 4]: Imagine that you have decided to see a play where admission is €10 per ticket. As you enter the theater you discover that you have lost a €10 bill. Would you still pay €10 for a ticket for the play?

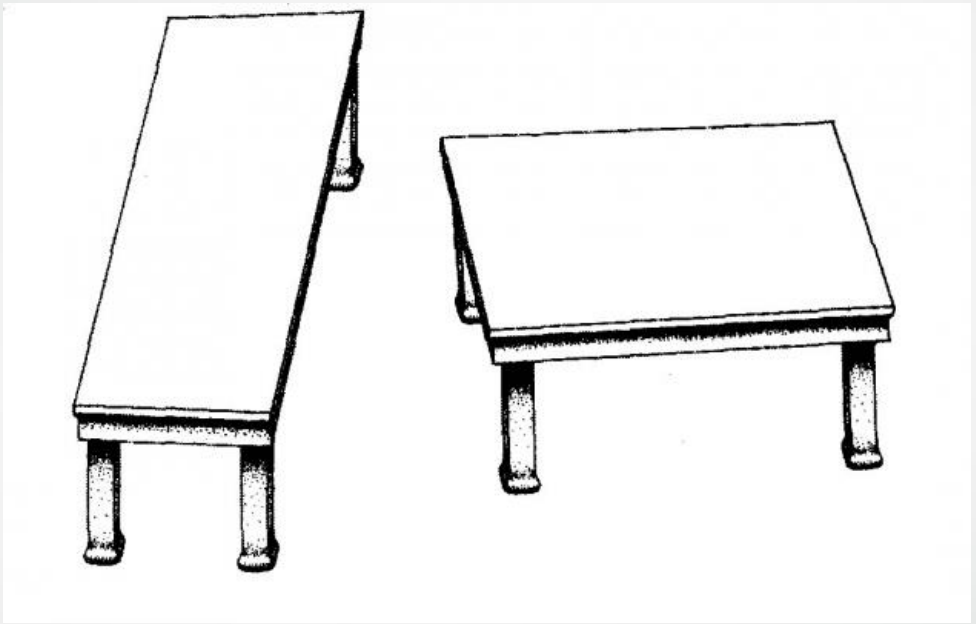
- YES!!!
- NO!!!

[Problem 5]: Which of the following options do you prefer?

- A: 25% chance to win of 30€
- B: 20% chance to win €45

[Problem 6a]: Imagine that you are about to purchase a jacket for €125, and a calculator for €15.The calculator salesman informs you that the calculator you wish to buy is on sale for €10 at the other branch of the store, located 20 minutes drive away. Would you make the trip to the other store?

- YES!!!
- NO!!!



What is the ratio length:width for each of the two tables?

[Problem 6b]: Imagine that you are about to purchase a jacket for €15, and a calculator for €125.The calculator salesman informs you that the calculator you wish to buy is on sale for €120 at the other branch of the store, located 20 minutes drive away. Would you make the trip to the other store?

- YES!!!
- NO!!!

[Problem 7]: Imagine that you have decided to see a play and paid the admission price of €10 per ticket. As you enter the theater you discover that you have lost the ticket. The seat was not marked and the ticket cannot be recovered. Would you pay €10 for another ticket?

- YES!!!
- NO!!!

[Problem 8]: Consider the following two-stage game. In the first stage, there is a 75% chance to end the game without winning anything, and a 25% chance to move into the second stage. If you reach the second stage you have a choice between:

- A: a sure win of 30€
- B: 80% chance to win €45

[Problem 9]: Choose between:

- A: 25% chance to win € 240 and 75% chance to lose €760
- B: 25% chance to win € 250 and 75% chance to lose €750

[Problem 10]: Imagine that the U.S. is preparing for the outbreak of an unusual Asian disease, which is expected to kill 600 people. Two alternative program to combat the disease have been proposed. Assume that the exact scientific estimate of the consequences of the programs are as follows:

- PROGRAM A: 400 people will die
- PROGRAM B: there is 1/3 probability that nobody will die and 2/3 probability that 600 will die.

Review and analysis

- What is “rationality”?
- Consistency and coherence

Review and analysis

- Pb. 1 & 10
  - If involves gains → risk averse
  - if involves losses → risk lover

Review and analysis

- Pb. 2 & 9
  - Complexity of concurrent decision prevents people from integrating options
- Do we empower our rational capabilities at full potential?
  - A bat and ball cost $1.10 in total. The bat costs $1.00 more than the ball. How much does the ball costs? (Thaler & Sunstein 2007)

Review and analysis

- Pb. 3, 8 & 5
  - Allais and Pseudo Allais effects

ultimatum game

In this experiment each of you will be paired with another person in this room. One of you will be designated the proposer, and the other will be designated the responder. You will never be told whom you are paired with; and I will never know who the pairs are. This experimental format is called a "double-blind," and it is designed to make you completely anonymous. You are the only person who will know what decisions you make. In double-blind experiments, participants need not worry about other people judging their actions, so they feel free to act as they truly desire to act.

Do not talk to other people in the room and do not look at other people's forms or show your form to anyone else.

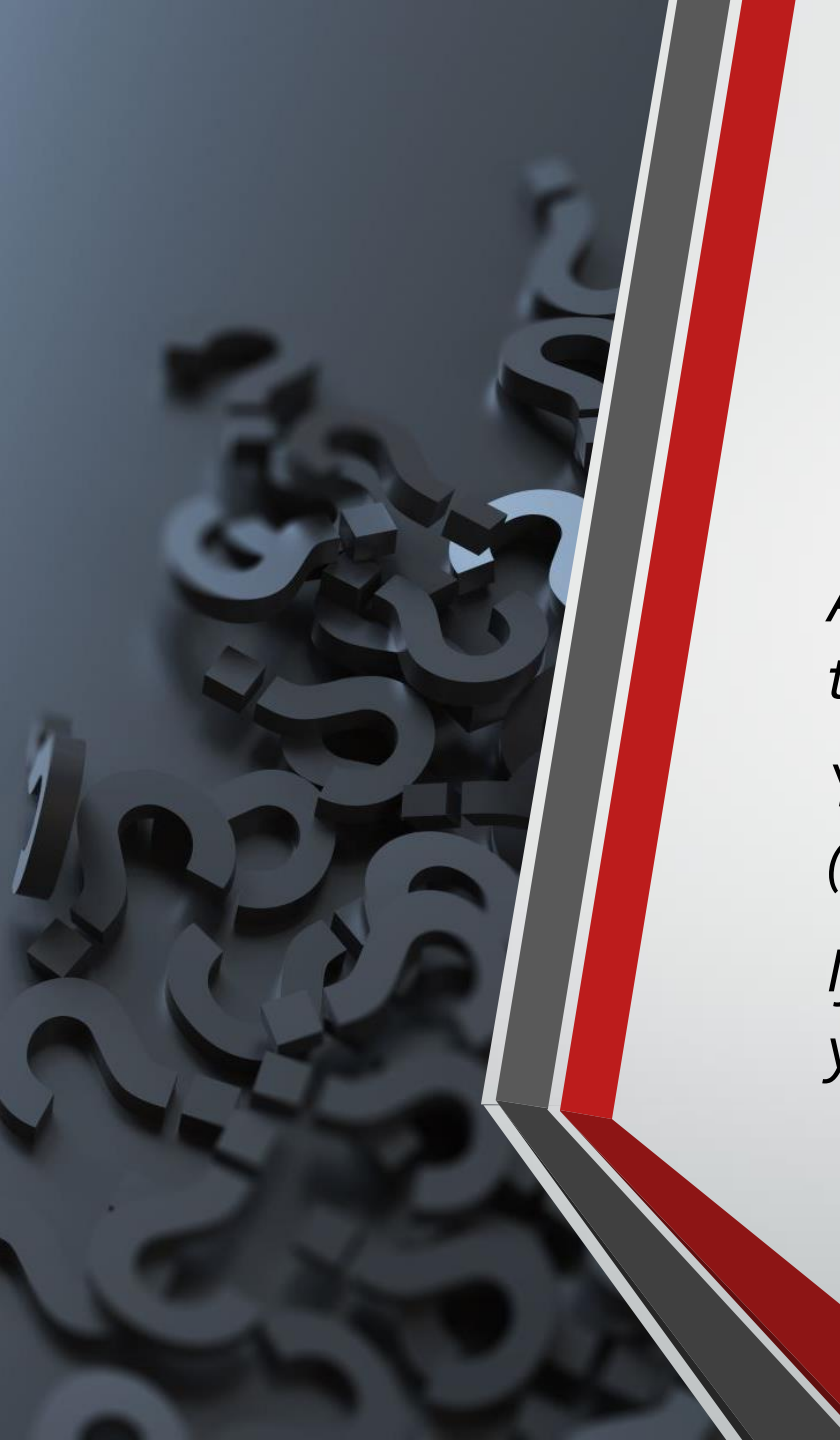
proposer

As the proposer, you will determine how €100 will be distributed between you and an anonymous responder.

You have to write down how much money (between €0 and €100) you offer to the responder.

The responder can accept or not.

If the offer is rejected you get nothing, if the offer is accepted you get the difference.



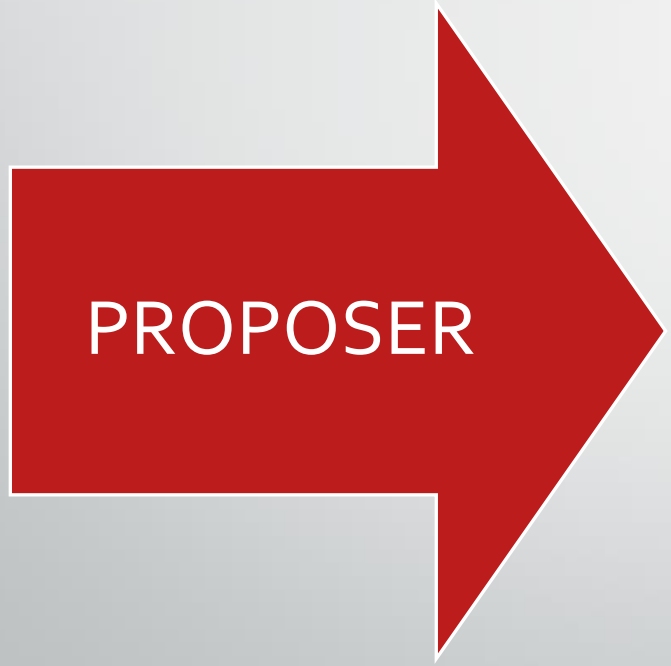
responder

As the responder, you will determine whether to accept or not the offer.

You have to write down the minimum amount of money (between €0 and €100) you are willing to accept.

If the offer is rejected you get nothing, if the offer is accepted you get the amount offered.

play it!



https://daf2021.herokuapp.com/ultimatum/

some insights: Nash

- **strategic interaction:** one person's choices (payoffs) depend not only on his own behavior but also on the choices of another person
- one-shot game: no unilateral incentive to deviate
- By backward induction:
  - Responder: always accepts
  - Proposer: offers a small weakly positive amount
- Rationally the respondent would never turn down an offer at a cost

some insight: *homo economicus* or *homo sapiens*

- *Homo economicus:*
  - individuals are self interested
- *Homo sapiens*
  - fairness and reciprocity

some insight: cultural variation

- Test model on field (not in lab) to understand the robustness against cultural variation
- Evidence from experiments!
- Many differences among different cultures

some insight: cultural variation

- 15 small-scale societies
- the higher market integration, the greater the level of cooperation
- mean offer (min 0.26; max 0.58)
- mean offer in industrial society 0.44

some insight: cultural variation

- in industrial societies offers below 20 percent are rejected with probability 0.40 to 0.60
- In some societies no rejection at all (despite low offers e.g. Machinguenga)
- In Papua New Guinea rejection of both unfair and hyper-fair offers
- Exceed or confirm the income-maximizing offer hypothesis (given the distribution of rejection).

some insight: cultural variation

- Explained by:
  - Social institution → social learning
  - Cultural norms (fairness or reciprocity of the gift – i.e. refusal of large offers)
  - Emotions?
- Mode of production (mkt integration and cooperation):
  - e.g. foragers vs. whale hunters
  - Analogy with every-day life

Güth et el. experiment

- A sample of 42 economics students was divided by two.
- By random one group was assigned to the role of player 1. The other took role of player 2
- P1's had to divide a pie C
- A week later the subjects were invited to play the game again
- In the first experiment the mean offer was .37C
- In the replication after a week, the offer were somewhat less generous, but still considerably greater than epsilon. Mean offer was .32 C

Eckel and Grossman (1996)

- Gender differences are identified in the framework of ultimatum game experiments.
- Men are more likely to reject
- Differences in wage bargaining?

Kahneman, Knetch, Thaler (1986b) investigated two questions

- Will proposers be fair even if their offers can not be rejected.
  - Subjects had to divide $20 either by 18 and 2 or equal splits.
    - Of the 161 subjects, 122 (76%) divided it evenly
- Will subjects sacrifice money to punish a proposer who behaved unfairly to someone else
  - The answer was yes by 74%

Camerer (2003)

- Dictator game: proposers offer less than in ultimatum games, around 15% of the stakes
- Trust game:
  - Backbone of social capital
  - Return on investment without legal protections
- Framing effect:
  - sum to divide received in a previous stage as reward
  - Common resources vs. buyer-seller
  - identity

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