# Consolidating behavioral economics and rational choice theory

*Insights from inequality research*

# Type your answers in the chat box.

- Assume you have 10 euros,

how much will you give an unknown recipient?

- 0%
- 25%
- 50%
- 75%
- 100%

# Now consider:

- Assume you have 10,000 euros,

how much will you give an unknown recipient?

- 0%
- 25%
- 50%
- 75%
- 100%

# Now consider:

- Assume you have 10 euros,

how much will you give to your Mother whom you really love?

- 0%
- 25%
- 50%
- 75%
- 100%

# Now consider:

- Assume you have 10,000 euros,

how much will you give to your Mother whom you really love?

- 0%
- 25%
- 50%
- 75%
- 100%

# What you played is the dictator game → measure of aversion to inequality

▶ Did your responses differ across 4 games?

▶ Why?

# What you played is the dictator game → measure of aversion to inequality

▶ Did your responses differ across 4 games?

▶ Why?

▶ **Standard economic theory predicts rational behavior:**
**You must give nothing in ALL GAME SETTINGS.**

Empirical data from experimental economics

(i.e. observed behavior of humans) say otherwise.

→ Behavior from incentivized economic experiments where

Respondents play for REAL money *(i.e. REAL stakes instead of Hypothetical)*

→ **The less money they give to others, the higher money they keep for themselves.**

# Debate: Substituting one over the other?

## Rational Choice Theory

- Rationality: Individual income maximization

- Utility maximization without regard for others, i.e. reference point for one's satisfaction is one's self

→ You are selfish & do not care about others

- Reliance on theoretical models using traditional optimization techniques

## Behavioral Economics

- Psychological mechanisms behind economic behavior

- Utility maximization with concern to the income of other people, compared to yours.

- Characterized by incentivized laboratory experiments (on humans!) that may lack of generalizability and external validity

# Our critique paper offers a different view.

- Advocate for "behavioral synthesis" in inequality research.
  - COMPROMISE: Psychological concepts are **complementary tools**, to be used in conjunction with – and not substituting for – rational choice models
  - COLLABORATION: Allows for diversity in models that one can adjust to the specific **context** of their research study.

- How is inequality represented in theoretical economic models?
  - Representation of **absolute income comparisons** *(i.e. level difference)* and

  **relative income comparison** *(i.e. proportional income difference)*

-  What can be learned from economic experiments about how inequality influences behavior, & what can be improved upon?

# Exhaustive Review:
# Mathematical models of inequality
# Rational choice theory vs. behavioral economics

► Differences in actors: **Self-interested vs. Other-regarding**

► Differences in models: **Profit-maximizing vs. Status-seeking competition**

► Differences in motivations: **Rational vs. Pro-social** (e.g. Altruism & Fairness)

# Key models: Rational choice

| Formal Model (Optimization theory) | Core assumptions | Reference Group for own-income comparison | Result: How does inequality affect redistributive preferences? | Driving Mechanism |
|---|---|---|---|---|
| **Rational Model** (Melzer, Richards, Romer, 1981) | Median voter as the decision-maker; Optimal tax rate | Average income of everyone | **Increase** *if median voter is poorer than mean* | *Self-interest:* Profit maximization |
| **Status-seeking** (Clark & Oswald, 1998) | Relative status or social ranking as source of utility | Average income of everyone | **Decrease** *if decision-maker is rich* | Profit-maximization |

# Key models: Behavioral economics

| Formal Model (Game Theory) | Core assumptions | Reference Group to whom you compare your income | Result: How does inequality affect redistributive preferences? | Driving Mechanism |
|---|---|---|---|---|
| **Absolute Income Difference** (Fehr & Schmidt, 1999) → Level difference comparison | Other-regarding: Utility as a function of the ***difference*** of your income & reference group | Weighted **difference** of your income and others | **Increase,** always | *Altruism:* Inequity aversion and fairness |
| **Relative Income Difference** (Bolton & Ockenfels, 2000 ) → Proportional comparison | Own income and your ***relative*** share compared to the sum of everyone's income | Average income of everyone | **Increase**, always | Inequity aversion and fairness |

# Testing behavioral models using laboratory experiments with student samples

- **Incentivized Games from Experimental Economics**
  - **Ultimatum Game**
    - Player 1 proposes an offer to distribute money for himself & Player 2
    - Player 2 decides to accept or reject the offer of Player 1
    - If Player 2 accepts, Player 1's offer is the final distribution of money.
    - If she rejects (i.e. thinks the offer is unfair), both get 0.
  - **Dictator Game**
    - Player 1 decides how much a given of money is distributed between him & Player 2, and the game ends.
  - **Behavioral measure of aversion to inequality and fairness preferences**
  - Observed behavior instead of stated responses in surveys
  - BUT, scarce evidence (from experimental economics) on directly comparing absolute and relative inequality.

# Proposal: Potential Role of Stake Size

- Stake size experiments investigate to what extent people change their behavior when monetary stakes are increased.

- Presence of stake size can (indirectly) measure absolute and relative inequality.

- Consider 2 dictator games.

  - In Game 1, you must distribute 10 euros between yourself & another person.

  - In Game 2, you must distribute 1000 euros.

- **No stake size effect:** If you chose to give the other person 20% in both games, i.e. Game 1 you give him 2 euros & Game 2 you give 200 euros.

  - **Relative inequality stayed the same**, i.e. you get 80%, the other 20%.

  - **Absolute inequality increased:** Level difference of income between 2 players in Game 2 is 600 euros, for Game 1 it is 6 euros.

- **If stake size is present, it is not straightforward.**

  - You are altruistic/inequity-averse, you should be more willing to give more money when stakes are high.

  - If you are profit-maximizing & rational, then the opposite occurs.

# Limitations of literature and proposed remedies

- **<u>Pluralism</u>** in inequality research

    *Experiments:* Tool to test validity of models & reconcile rational choice and behavioral economics

    *Flexibility:* Researcher chooses model suitable to their specific research question

 (e.g. Status-seeking models for competition experiments & Altruism models for charitable giving experiments)

- **<u>Local context</u>** using fieldwork in developing countries (Non-WEIRD, non-student samples: People who are NOT Western, educated, industrialized, rich and democratic

- **<u>Reference groups</u>** other than the "average" (per capita income) as point of comparison: What if the reference is the poorest of the poor & you want to increase social welfare?

- **<u>Measurement consistency</u>** between game theory and empirics, i.e. how absolute & relative inequality are measured differ across methods.

    - Between **stated preferences** (what people say about inequality)

        vs. **revealed preferences** (observed unequal behavior in economic games)