Tutorial

Economics of Social Justice

Session 8: Fairness in public good provision

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- Clark, J. (1998): "Fairness in Public Good Provision: An Investigation of Preferences for Equality and Proportionality", Canadian Journal of Economics, vol. 31: pp. 708-729.

Goals of this session

- Understand the use of experiments to verify the existence of certain kind of preferences

- Learn how an experiment can be framed

- Understand the role of preferences for equality and proportionality in economic relations
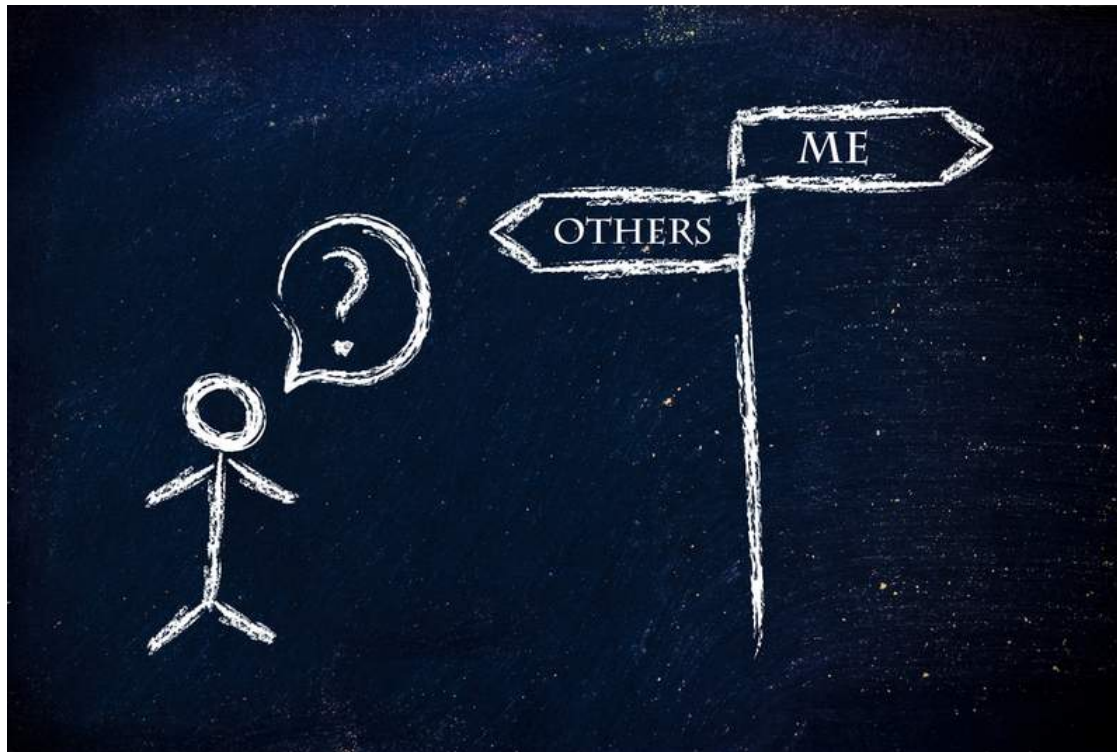
1. Fairness and economic agents

- Do economic agents care about it?

- Outside of economics: various concepts
  - Developmental and social psychology:
    - From childhood people can distinguish between outcomes (fair and own interest)

- Key question of the study:
  - "If people can distinguish between fair and self-serving outcomes, which do they prefer?"

1. Fairness and economic agents

- Far-reaching implications for economic analysis:
  - Public goods (people may be not indifferent to distributional effects)

- Empirically:
  - As scientists: also concerned about evidences
  - Difficult to prove (existence of fairness preferences)

- Experimental literature on fairness preferences:
  - Bargaining (games)
  - Public good voluntary contribution mechanisms (last tutorial)

"While evidence of systemic deviations from self-interest in bargaining games is to find, it is not well understood" (p.710)

2. About the paper

- Investigate fairness preferences through experiments

- Objective:
  - Distinguish among:
    - Fairness principles
      - Equality
      - Cost/benefit proportionality

    - Fairness and motivations
      - Altruism
      - Envy
      - Rawlsian Difference Principle
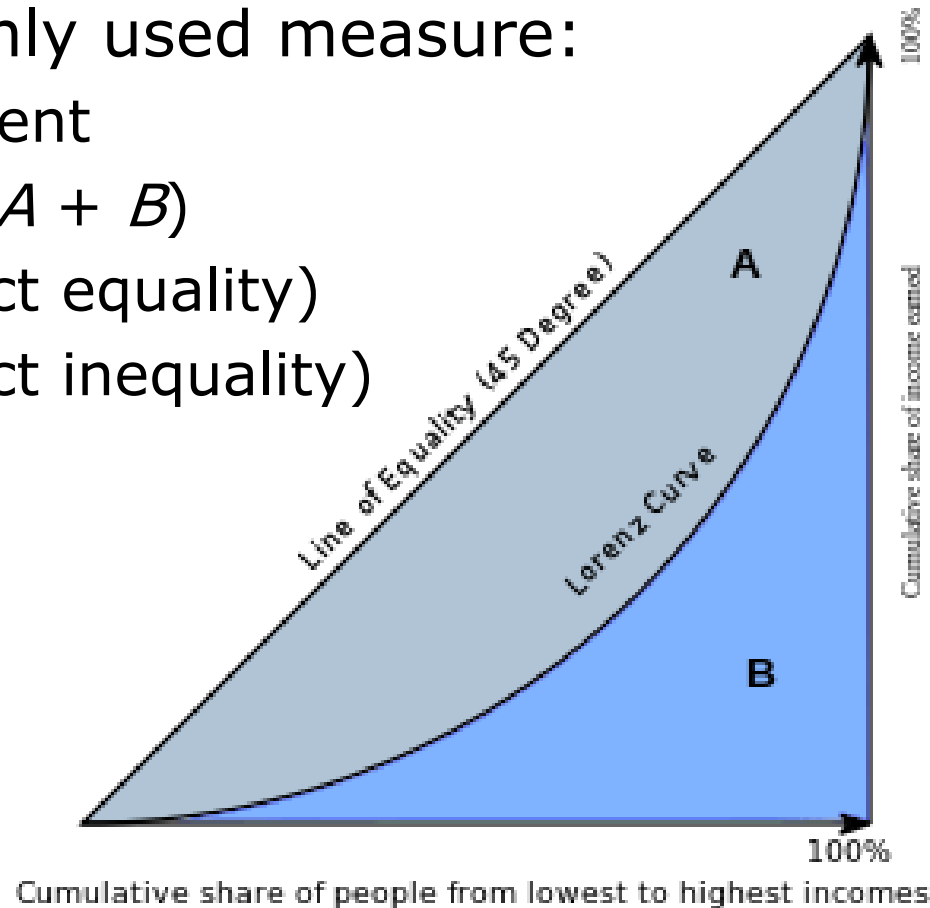
2. About the paper

- Experiment used to test:
  - 1) Existence of preferences:
    - Do people have preferences for equality or for proportionality?

  - 2) Sensitivity: Are these preferences sensitive to:
    - A) whether decisions are hypothetical or actual (costly)?
    - B) whether differences in incomes or benefits are random or earned?
    - C) whether decisions are framed over gains or losses?

3. Explaining fairness principles and motivations

- ## 3.1: Equality:
    - Most commonly used measure:
        - Gini coefficient
        - Gini = $A / (A + B)$
        - G=0 (perfect equality)
        - G=1 (perfect inequality)

Line of Equality (45 Degree)

Lorenz Curve

A

B

100%

100%

Cumulative share of income earned

Cumulative share of people from lowest to highest incomes

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3. Explaining fairness principles and motivations

- **3.2: Proportionality**
  - Prominent principle in social psychology:
    - Costs be proportional to benefits in exchange
    - Maximum fairness is achieved when: each person's costs are exactly proportional to her benefits
    - For a public good:
      - If J receives x% of the benefits from a project, J should pay for x% of the costs

- PS: Several competing „other regarding" motivations

3. Explaining fairness principles and motivations

- Measuring proportionality:

$$P = \frac{\sum_i^N \left| \left(\frac{c_i}{C}\right) - \left(\frac{b_i}{B}\right) \right|}{2}$$

- c_i: cost paid by person *i*
- b_i: benefits received by person *i*
- *P* : sums deviations from cost/benefit proportionality over the population and is normalized between 0 and 1
  - P=0 (perfectly proportional)
  - P=1 (perfectly non-proportional)

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3. Explaining fairness principles and motivations

- Examples of these motivations:
- **3.3: Altruism and envy**
  - Altruism: Individuals might prefer outcomes that maximize total or mean income received by others
    - $A = \sum_{-i} Y_{-i}$

  - Envy: Individuals may care about their relative position
    - $E = \sum_{h}(Y_h - Y_i)$
    - E sums the income gaps between agent i and all individuals with $Y_h > Y_i$

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3. Explaining fairness principles and motivations

- Further examples of these motivations:

- **3.4: The difference principle**
  - Requires social institutions to adopt measures only in so far as they are to the **benefit the least fortunate**

- **3.5: Three context effects**
  - Hypothetical generosity
    - hypothetical x actual situation

  - Means by which subjects are assigned differing roles in experiments
    - income assigned by chance x by relative effort

  - Framing of trade-offs between fairness and income over gains or losses
    - losses may reduce utility more than equivalent foregone gains

3. Explaining fairness principles and motivations

- Agent i's representative utility function:

$$U_i = (Y_i, G, P, A, E, Y_{min})$$

Y: own income

G: equality

P: proportionality

A: altruism

E: envy

Y_{min} : concerned about the income of the society`s poorest

4.1 Group work

- Read and understand one of the experiments bellow:
  - On equality
  - On proportionality

- Explain
  - Design + Process
  - Results

- Take your conclusions as a group (discussion)
- Present it together

5. Final remarks

- Do you think that such an experiment is helpful for your understanding about preferences for fairness?

- How would you frame such an experiment?

- Which are your critics?