Experimental Research in Public Finance & Economics

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Outline

- Elements of an experiment
- Topics
  - Public Goods
  - Taxes
  - Spending/Willingness to Pay

Elements of an Experiment

- Individual focus
- Discrete decision or action
- Random assignment to control and treatment group
- Controlled manipulation of context, information, or other element

Public Goods

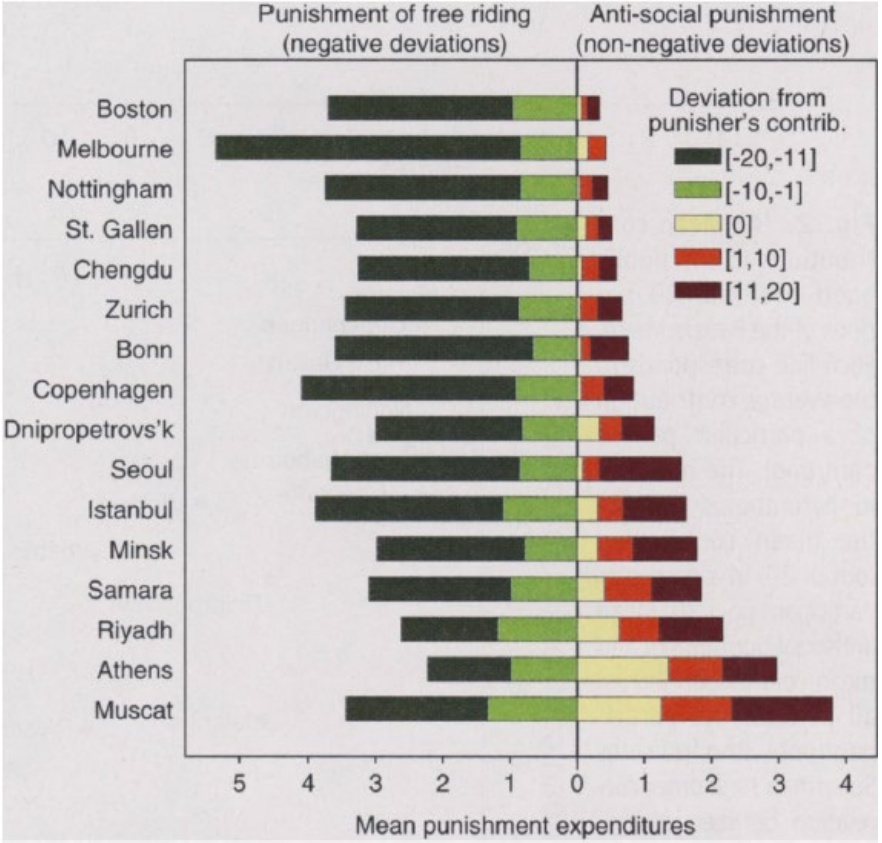
- Marwell & Ames (1979): 256 high school students from Madison, WI. Split randomly into large groups or small groups. Each individual made a decision to invest tokens in either an “individual” account or a “group” account. Individual accounts got a set rate of return. Group accounts split the amount contributed if above some threshold, otherwise got 0. Random selection of individuals within groups to get disproportionate return. Little support for “free riding”; high level of public good provision. Support for Olson’s hypothesis that public goods are provided when the interest of one group member exceeds the cost.
- Fischbacher, Gachter & Fehr (2001): 44 undergraduate students in Zurich, Switzerland separated in groups of 4. Similar setup as Marwell & Ames, but addition of “contribution table” where participants set their proposed contribution based on the average contribution of others. Random selection of whether the unconditional or conditional contribution would hold and which group member’s contribution table would be the payoff. Half of subjects demonstrated “conditional cooperation” while 30 percent were strictly free-riding and 14 percent had “hump-shaped” conditional contributions

Public Goods

- Punishment
  - Fehr & Gachter (2002): 240 undergraduate students in Zurich. Random selection into groups of 4 members. Similar contribution scheme as above. However, addition of opportunity to punish others after revelation of contribution. Repeated game 6 times but with new groups. Strong levels of altruistic punishment noted, related to past levels of contribution. Cooperation increased with punishment and potential punishment.

Public Goods

- Punishment
  - Herrmann, Thoni & Gachter (2008): Examine altruistic punishment (of individual behavior) and antisocial punishment (of group behavior) across cultures using similar setup as Fehr & Gachter.



Taxes

- Tax Salience
  - Chetty, Looney & Kroft (2009): Field experiment posting tax-inclusive prices for some personal care products in a supermarket. Statistical comparison with similar goods in the same aisles and at other stores showed reduced sales for the "tagged" products.
  - Simonsen & Robbins (2000): Random sample of registered voters in Eugene, OR. Random assignment of two survey forms asking about support for public services, one with tax information and one without. Tax information greatly reduced support.
  - Hayashi, Nakamura & Gamage (2013): Sample of 600 UCBerkeley students, staff, alumni. Random assignment to receive wage offers for work effort task varying according to tax type (flat, progressive, etc. – Experiment 1), tax presentation (wage & tax versus net wage only) and net wage (Experiment 2). Tax presentation has large effect. Also some evidence of complexity aversion.

Taxes

- Tax Compliance
  - Alm, Jackson & McKee (1993): Undergraduate students. Students receive initial endowment, a random income and audit determination, facing known tax rates, fines and audit probabilities (and in one round a public good). Compliance increases with income, audit probabilities, and knowledge of the public good and decreases with tax rate.
  - Alm, McClelland & Schulze (1999): Similar setup as above, but adding rounds where subjects vote on tax rates, fines and audit probabilities and subjects now share in the pool of taxes paid. Compliance decreases when a stricter audit probability is rejected and increases when it passes.
  - Kastlunger et.al. (2011): Similar setup as above, but adding rewards for being audited and found in compliance. Rewards not found to have significant effect on tax revenue but did decrease the amount of “all-or-nothing” behavior.

Spending/Willingness to Pay

- Early work
  - Banford, Knetsch & Mauser (1978): Sample of 80 residents of White Rock, BC. Questions on willingness to pay for public services and willingness to accept (demanded compensation) for a pier and postal service. WTA significantly higher in both cases.
  - Arrington & Jordan (1982): Sample of 300 registered voters in North Carolina. Two forms of question: per capita cost and general support for public service. Much lower support for paying the per capita cost. Low correlation between the ordering of preference. Cost has a small but significant effect on support.

Spending/Willingness to Pay

- Endowment Effect
  - Kahneman, Knetsch & Thaler (1990): Eight experiments carried out at Cornell University, Simon Fraser University, and the University of British Columbia. Various elicitation of WTP/WTA (e.g., stating reservation prices for tokens, coffee mugs, pens, binoculars). Calculation of market clearing price. Trades decided randomly. Found much fewer trades than expected. WTA greatly exceeds WTP. Further experiments rule out many threats to results.

Spending/Willingness to Pay

- Anchoring/Adjustment
  - Green et.al. (1998): 370 visitors to a museum in Sacramento, CA. Answered 5 questions, 2 WTP for public goods (both a Yes/No support and a maximum WTP) and 3 objective questions. Calibration group set anchoring values at various percentiles. Found strong anchoring effects (mean/median WTP increases with anchoring, as does approval).
  - Kriz (2018, under review): Perception of cost of referendum. Sample of students and national sample. Random assignment to groups receiving referenda question in one of three formats: Total cost, per capita cost, monthly cost. Strong evidence of anchoring in total cost format, mixed evidence of anchoring in per capita cost.

Spending/Willingness to Pay

- Affect Heuristic
  - Rottenstreich & Hsee (2001): Undergraduate students at Rice University and the University of Chicago. Random presentation of “affect-laden” and “affect-poor” prizes/penalties and certain/uncertain probabilities. Strong evidence of response to affect-laden events (higher WTP for prizes and WTA for penalties).
  - Kriz & Clark (2019, under review): Study of willingness to pay for infrastructure provision. Presentation of affect-laden (pictures/videos) and affect-poor information and more/less certain probabilities. Evidence of higher WTP for affect-laden presentation.