



ALTRUISM and RECIPROCITY

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What is ALTRUISM?

- Merriam-Webster dictionary
 - *unselfish regard for or devotion to the welfare of others*
 - *behavior by an animal that is not beneficial to or may be harmful to itself but that benefits others of its species*
- Cambridge English Dictionary:
 - *willingness to do things that bring advantages to others, even if it results in disadvantage for yourself*
- origin
 - from French *altruisme*,
 - from Italian *altrui* 'somebody else',
 - from Latin *alteri huic* 'to this other'.
 - In 19th century philosopher Auguste Comte begin to use altruism as antonym to egoism

How to measure altruism?

- Can you measure altruism when you see it?
- Self-Report Altruism Scale
 - ex-post or ex-ante measurement for altruism
 - 20 (14 in adopted version) questions
 - answers 1=Never/Once/More than once/Often/5=Very often
 - measures
 1. what subjects really did
 2. what would they do

- Rushton, J. Philippe, Roland D. Chrisjohn, and G. Cynthia Fekken. "The altruistic personality and the self-report altruism scale." *Personality and individual differences* 2.4 (1981): 293-302.



Altruism in experiments

- Prisoner's Dilemma
- Public Goods
- Dictator Game
- Trust Game

Prisoners' Dilemma I

- One of the standard game theory problems
- Two gangsters (Pablo and Frank) have committed a crime and have been caught.
- They are being held in separate cells so that they cannot communicate with each other.
- They are both offered a deal by the police and have to decide what to do independently.

Prisoners' Dilemma II

- If one gangster confesses and the other denies taking part in the crime, first goes free and second gangster goes to prison for ten years.
- If you both gangsters confess they will serve six years each.
- If you both gangsters deny taking part in the crime, both both go to prison for six months.



Prisoners' Dilemma III

PABLO

CONFESS

DENY

CONFESS

**FR
AN
K**

DENY



Prisoners' Dilemma III

		PABLO	
		CONFESS	DENY
FRANK	CONFESS	6 ; 6	0 ; 10
	DENY	10 ; 0	0.5 ; 0.5

Prisoners' Dilemma III

		PABLO	
		CONFESS	DENY
FRANK	CONFESS	6 ; 6	0 ; 10
	DENY	10 ; 0	0.5 ; 0.5

Prisoners' Dilemma III

■ Cooperation

- is the key to success in the game (Kelly and Stahelski, 1970; Roth and Murningham, 1978; and other)
- But it might be triggered by altruism but probably reputation is more important (Kreps, et al., 1982)
- Andreoni and Miller (1993) found that **20% of subjects have to be altruistic to support equilibria findings**

Public Goods Game

- You learned about PGG two weeks ago
- To sum up, a game where players either contribute to private and public account.
- Dominant strategy is giving zero.
- Results show, that average giving is significantly above zero (Isaac and Walker, 1988; Isaac, Walker and Williams, 1994; Andreoni, 1988; Andreoni and Carson, 2008; Palfrey and Prisbrey, 1996)

Public Goods Game II

- Any error or variance in data could be viewed as altruism (Ladyard, 1995)
- Experiments shown that:
 - Warm-glow dominates altruism (Palfrey and Prisbey, 1997)
 - Altruism dominates warm-glow (Goeree, Holt and Laury, 2002)
 - **Both warm-glow and altruism are evident in PGG** (Bolton and Katok, 1998; Eckel, Grossman and Johnston, 2005)

Ultimatum and Dictator Game (from 2nd week)

Ultimatum Game

- Two players (proposer and responder) bargain over a division of a given sum of money.
 1. **proposer:** makes an offer how to split the sum
 2. **responder:** accepts or rejects
 - ➔ if accepted they split the money
 - ➔ if rejected neither gets anything
- unique subgame perfect equilibrium the proposer suggests the responder the smallest amount possible and the responder accepts

Dictator Game

- Two players (dictator and recipient) bargain over a division of a given sum of money.
 1. **dictator:** splits the sum
 2. **recipient:** is informed of endowment left by the dictator
- unique subgame perfect equilibrium: the dictator takes it all

Dictator Game

- Proposers choose a fair deal (Guth, Schmittberger and Schwarze, 1982) but is it altruism?
 - Answered by Forsythe, et al. (1994) by removing 2nd stage of the game: in average 25% of the endowment was shared
- Andreoni and Miller (2002) investigated altruism by gender
 - men are more likely to maximize total payments to both subjects
 - women are more likely to equalize payments to both
 - ⇨ men are more altruistic when giving is cheap and women when it is expensive

Do you trust each other?

Let's play a game!

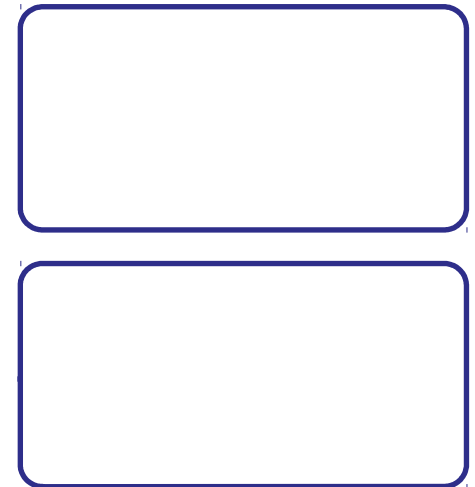
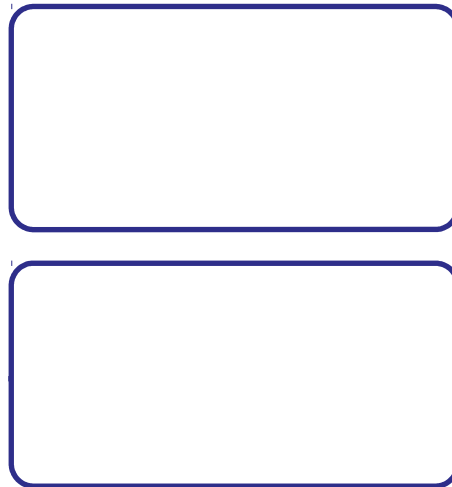


Trust Game

- 2 players
- Both receive same endowment (e.g. 100 Kč)
- Player 1 (Bob) is told that he may send some amount of his money (x) to a second player (Tom)
- Bob is also informed that whatever he sends will be tripled by the experimenter.
- Tom is then told to make a similar choice – give some amount of the now-tripled money back (y) to Bob

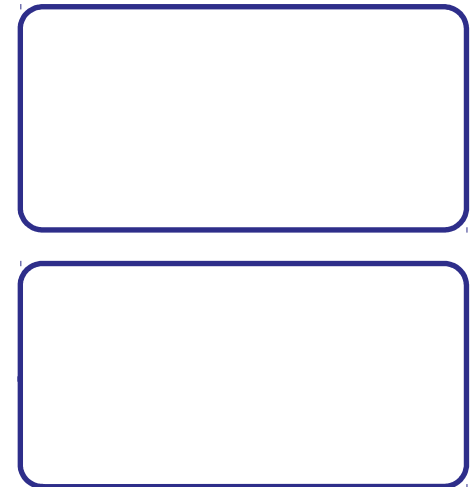
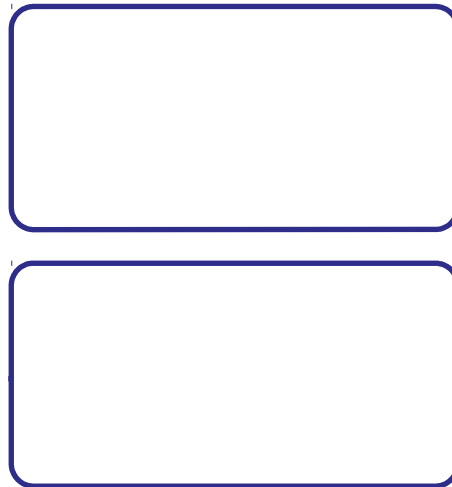


Trust Game II





Trust Game II



Trust Game III

- $x = 0$ is subgame perfect equilibria for sender (Bob)
- $y = 0$ is a dominant strategy for receiver (Tom)
- y is often slightly below average x (Berg, Dickhaut, McCabe, 1995)
- 60% of senders and 42 receivers is motivated by altruism (Cox, 2004)
- **reciprocity** is clearly present in Trust Game (Charness and Haruvy, 2002; Gneezy, Guth and Verboven, 2000)

Where does the altruism come from?

- Culture (Roth et al., 1991; Henrich et al., 2001)
- Psychological development and socialization (Harbaugh and Krause, 2000)
- Our brain (Tankersley, Stowe and Huettel, 2007)



What is RECIPROCITY?

- Merriam-Webster dictionary
 - *a situation or relationship in which two people or groups agree to do something similar for each other, to allow each other to have the same rights, etc. : a reciprocal arrangement or relationship*
- Cambridge English Dictionary:
 - *behavior in which two people or groups of people give each other help and advantages*
- origin
 - from Latin *reciproc(us)* meaning returning.

Reciprocity

- It is also a social rule that says that we should repay
- It differs from altruism in a manner that a response is expected
- You may find reciprocity in Hammurabi's code (about 1750 BC) → eye for eye
- Strong method to make someone follow a rule → e.g. law, wage are reciprocal

Positive vs Negative Reciprocity

- Positive
 - a motivation to adopt a generous action that benefits someone else, at one's own material cost, because that person's intentional behavior was perceived to be beneficial to oneself.
- Negative
 - a motivation to adopt an action that harms someone else, at one's own material cost, because that person's intentional behavior was perceived to be harmful to oneself

Reciprocity in Experiments

- PGG
- Dictator Game
- Trust Game
- Other

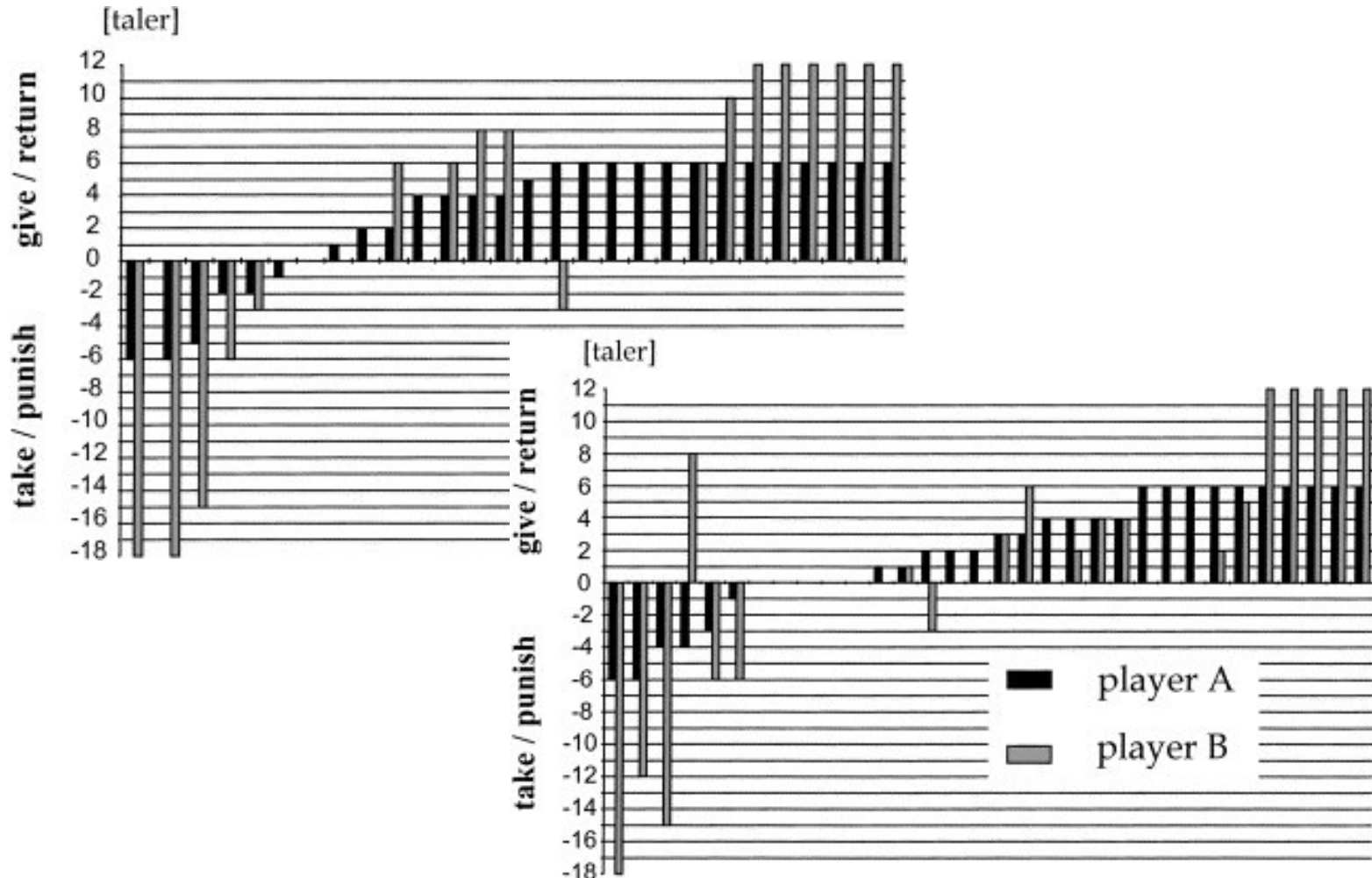
Reciprocity in experiments

- It is confirmed that direct positive reciprocity is frequent in experiments (Diekmann, 2004)
- 40-66% of subjects display non-selfish behavior (Fehr and Gaachter, 2000)
- Negative reciprocity is measured by means of a **moonlighting game** (Abbink et al., 2000) where one player can take money from other, who can punish in return

Moonlighting Game

- 2 players
- Both endowed with 12 tokens
- At the 1st stage player A can take money (up to 6) from or pass money to player B
- At the 2nd stage player B can pass money (up to 18) to A or punish (take up to 6) player A.

Moonlighting Game



Moonlighting Game

- Results:
 - retribution (punishment for breaking the contract) is more compelling than reciprocity because the hostile actions are punished more often than friendly actions rewarded (Abbink et al., 2000)
 - first players are not afraid of negative reciprocity (Cox et al., 2002)

Bribery Game

- Essential characteristic of corruption is reciprocity
 - Both negative and positive
- 2 (Abbink et al., 2002) or 3 player game (Alatas et al., 2009)
- 1st player “FIRM” may offer a bribe
- 2nd player “OFFICIAL” either rejects or accepts it
- 3rd player “CITIZEN” may punish

Bribery Game

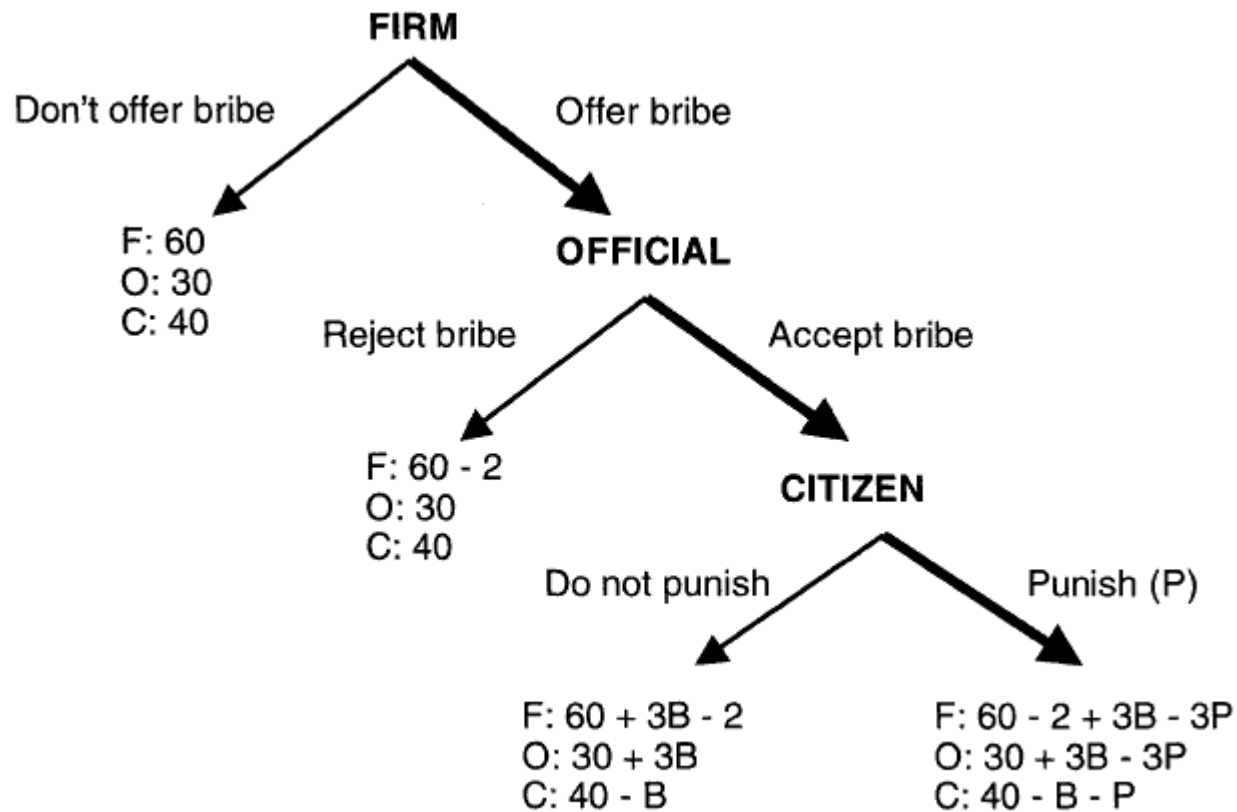


Figure 1. The Game Tree

Bribery

- Women are less likely to offer bribes and more likely to punish corruption but it varies across countries. Variation might be explained by different roles of women (Alatas et al., 2009)
- Reciprocity and trust may lead to stable exchange of benefits (corruption) even when own payoffs are not maximized (Abbink et al., 2002)



Thank you for your attention