Alessandro Innocenti

LabSi
EXPERIMENTAL ECONOMICS LABORATORY
University of Siena

LECTURE 14 FAIRNESS

Aim: To analyze the determinants of fairness in economic behavior.

Outline: Fairness and social preferences. Dictator game. Ultimatum game. Fehr and Schmidt's model. Beliefs. Asymmetric payoffs. Framing. Intentions matters.

Readings:

Fehr, E. and K. M. Schmidt (1999). "A Theory of Fairness, Competition, and Cooperation", *The Quarterly Journal of Economics*, 114, 817-868

Bicchieri, C. and J. Zhang (2012) "An Embarrassment of Riches: Modeling Social Preferences in Ultimatum Games", in U. Maki (ed.) *Philosophy of Economics*, San Diego: North Holland, 577-595.

Blogs, Videos and Websites

"The Triumph of the Social Animal" by Chrystia Freeland

http://www.nytimes.com/2012/04/20/world/europe/20iht-letter20.html

Capuchin monkeys reject unequal pay

http://www.youtube.com/watch?v=lKhAd0Tyny0

FAIRNESS AND SOCIAL PREFERENCES

Experimental evidence on

- sharing
- sanctioning
- fairness

Sharing and sanctioning are characterized by **reciprocity**

Kindness vs. kindness

Unfairness vs. (costly) sanctions

Individual heterogeneity

Preference for fairness

Given two outcomes, individuals by and large will prefer the fairest one

DICTATOR GAME

Two players: Dictator and Recipient

Dictator gets amount *X* and decides how to allocate *X* between Recipient (*s*) and Dictator (*X*-*s*)

Most common results

- – Average offer $s \approx 0.2$
- – Most common offers: 0 and 0.4 – 0.5

- s increases with :

- Non-anonymity
- Identifiable recipient
- ”Deserving” recipient (e.g. Amnesty)

S decrease with:

- ”Earned” initial amount
- Option to ”pass”

ULTIMATUM GAME

Fehr and Schmidt (1999)

Proposer gets $1 and propose a share s to the respondent
Respondent accepts (payoffs (1 − s,s)) or rejects (payoffs (0,0))
Most common strategy s = .3

Market game with multiple proposers

— 1 responder and n−1 proposers
— R accepts the highest offer
— empirically s = 1

Market game with multiple responders

— n − 1 responders and 1 proposer
— if at least one responder accepts, the contract is executed
(responder share is divided between all responders that accepted)
— empirically s = 0

UG FINDINGS

One-shot, anonymous Ugs

Modal and median UG offers are 40/50%

Means are 30/40%

Offers of 40/50% rarely rejected

Offers below 20% rejected about half the time

Explanations

- Preference for fairness
- Negative/positive reciprocity of perceived intentions
- Altruism, generosity
- Social norms

FEHR AND SCHMIDT'S MODEL

People dislike inequality: they care about own payoffs and differences between their payoffs and others'

Player i's utility for the allocation (x_1, …, x_n) is:

$$U_i(x_1,...,x_n) = x_i - \frac{\alpha_i}{n-1}\sum_j \max(x_j - x_i, 0) - \frac{\beta_i}{n-1}\sum_j \max(x_i - x_j, 0)$$

"α" can be considered as an envy weight, and "β" as a guilt weight

$0 < \beta_i < \alpha_i$, *and* $\beta_i < 1$

people dislike advantageous inequality less than disadvantageous inequality

Fehr-Schmidt is a consequentialist model: an agent's utility is completely determined by the final distribution of outcomes — his and others' material payoffs

BELIEFS

Rabin emphasizes the role of actual actions and beliefs in determining utility.

HP: The proposer is asking what type of responder she is facing.

If her belief about the type of the responder is a probability distribution P on α_2 and β_2.

When β_1>1/2, the proposer's rational choice does not depend on what P is.

When β_1<1/2, however, the proposer may seek to maximize the expected utility:

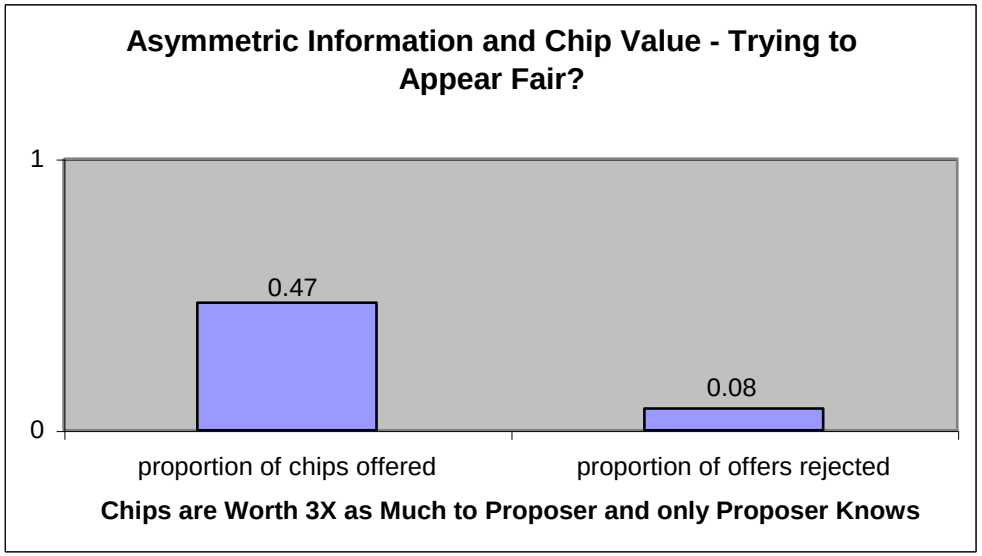
$$EU(x) = P(\alpha_2 M/(1+2\alpha_2) < x) \times ((1-\beta_1)M - (1-2\beta_1)x)$$

Therefore, the behavior of a rational proposer in UG is determined by her own type (β_1) and her belief about the type of the responder.

The experimental data suggest that for many proposers, either β is big (β>1/2) or their estimate of the responder's α is big.

ASYMMETRIC PAYOFFS
Kagel et al. (1996)

- Chips have higher (three times more) values for the proposer, and only the proposer knows it
- in this case the offer is very close to half of the chips and the rejection rate is low
- people merely prefer to appear fair, as a really fair person is supposed to offer about 75% of the chips

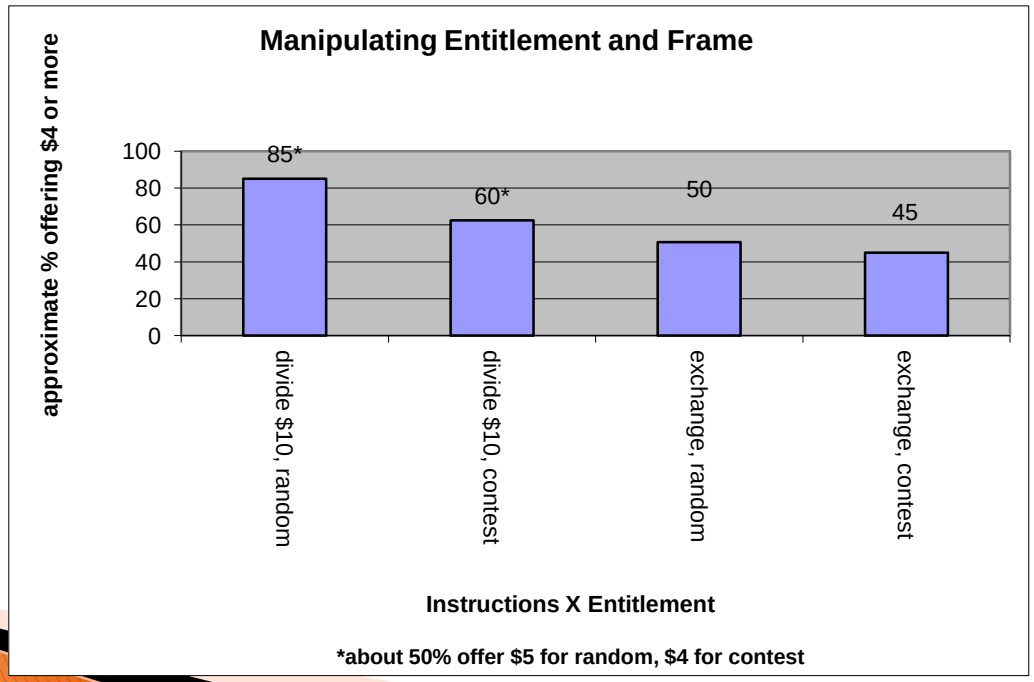


"Fairness in Ultimatum Games with Asymmetric Information and Asymmetric Payoffs" Kagel, J Kim, C & Moser, D (1996) *Games and Economic Behavior* **13** 100-110.

FRAMING

Hoffman et al. (1985)

- UG with groups of twelve participants were ranked on a scale 1-12 either randomly or by superior performance in answering questions about current events.
- The top six were assigned to the role of ”proposer/seller” and the rest to the role of ”responder/buyer”.
- Significantly lowered offers, but rejection rates were unchanged as compared to the standard Ultimatum game.



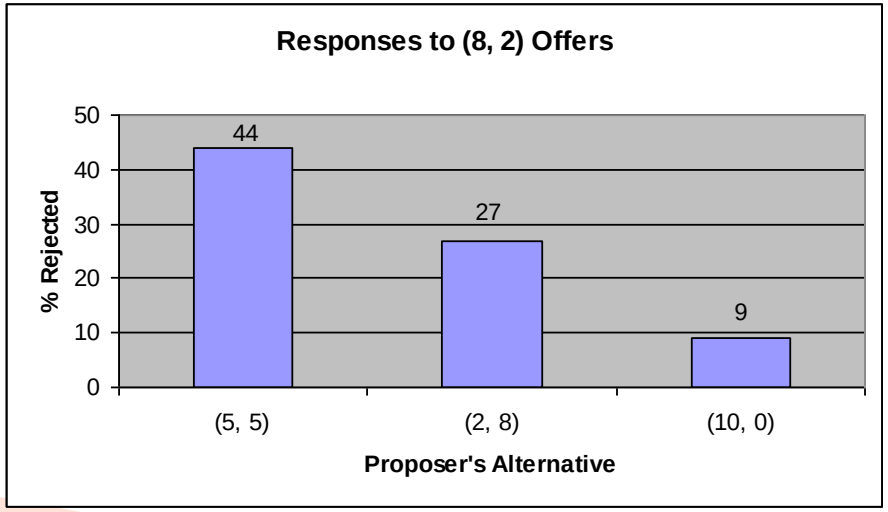
INTENTIONS MATTER
Fehr et al. (2003)

- UG with only two choices: either offer 2 (and keep 8) or make an alternative offer that varies across treatments:

  (5,5), (8,2), (2,8) and (10,0)

- When the (8,2) offer is compared to the (5,5) alternative, the rejection rate is 44.4%
- It decreases to 27% if the alternative is (2,8), and further decreases to9% if the alternative is (10,0).
- the rejection rate depends a lot on what the alternative is

"On the Nature of Fair Behavior" Falk, Fehr, Fischbacher (2003)



SUMMARY

- Preference for fairness is not unconditional
- Ambiguity allows self-serving biases
- Fairness depends on expectations
- Fairness depends on contexts and framing
- Intentions matter

Research questions

What grounds expectations?

How do we map contexts into preferences?