

# Tutorial 2: Investigating Informal Sanctions

Falk, A., Fehr, E., & Fischbacher, U. (2005). Driving forces behind informal sanctions. *Econometrica*, 73(6), 2017-2030.

Ying Chen

[ying.chen2@nottingham.edu.cn](mailto:ying.chen2@nottingham.edu.cn)

University of Nottingham Ningbo China

Ningbo, April 3, 2023

# Background Information

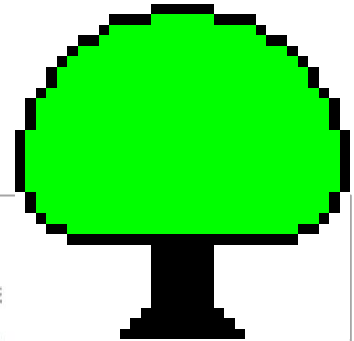
- Scholars
  - Armin Falk
  - Ernst Fehr
  - Urs Fischbacher
- Institutions
  - University of Zürich
  - University of Konstanz
- Research areas
  - Social preferences
  - Social norm
  - Neuroeconomics



University of  
Zurich<sup>UZH</sup>



THURGAU INSTITUTE  
OF ECONOMICS  
at the University of Konstanz



z-Tree - Zurich Toolbox for Readymade Economic Experiments

## Zurich Toolbox for Readymade Economic Experiments



z-Tree is a **widely used** software package for developing and carrying out economic experiments. The language used to define the experiments is simple and compact, meaning that experiments can be developed quickly, and programming experience is not necessary, though useful.

# Questions to FFF05

*Research question* – 1. What questions do Falk, Fehr and Fischbacher set out to answer?

*Experimental Design* – 2. What are the main features of the experimental design? What functions do they serve? How were treatments designed to answer these questions?

*Conclusion* – 3. What are the main findings?

*Limitation* – 4. What, if anything, do you think we learn about behaviour in the real world from this experiment?

*Extension* – 5. What additional research questions related to this topic do you think it would be interesting to answer? How would you go about trying to answer them?

# 1. What questions do Falk, Fehr and Fischbacher set out to answer?

# 1. What questions do Falk, Fehr and Fischbacher set out to answer?

1. Why people sanction others' cooperative or defective behaviors?
  - Spitefulness-driven sanction vs. Fairness-driven sanction.
  - Informal sanction: “implicit punishment” – private parties punish other peoples' observed behaviours at a cost.

# 1. What questions do Falk, Fehr and Fischbacher set out to answer?

1. Why people sanction others' cooperative or defective behaviors?
  - Spitefulness-driven sanction vs. [Fairness-driven sanction](#).
  - Informal sanction: “implicit punishment” – private parties punish other peoples' observed behaviours at a cost.
2. [Which fairness theory](#) explains fairness-driven sanctions? (What constitutes an individual's fairness preference?)

# 1. What questions do Falk, Fehr and Fischbacher set out to answer?

1. Why people sanction others' cooperative or defective behaviors?
  - Spitefulness-driven sanction vs. [Fairness-driven sanction](#).
  - Informal sanction: “implicit punishment” – private parties punish other peoples' observed behaviours at a cost.
2. [Which fairness theory](#) explains fairness-driven sanctions? (What constitutes an individual's fairness preference?)

Falk and Fischbacher (forthcoming)). One implication is that—with the exception of Levine's (1998) approach—all fairness theories have difficulties in explaining spiteful sanctions. In addition, our data help us answer two important questions regarding cooperators' fairness principles. **First**, can the cooperators' sanctions be explained by fairness preferences that neglect the payoffs of individual group members and focus, instead, on the comparison of a player's own payoff with an aggregate measure of the group's payoff, such as the group's average or total payoff? **Second**, can the cooperators' sanctions be explained by approaches that assume that players want to minimize payoff inequalities, or can these sanctions be better explained by the motive to retaliate, i.e., the motive to harm those who acted unfairly?<sup>3</sup>

(pp.2019)

# 1. What questions do Falk, Fehr and Fischbacher set out to answer?

## 2. Which fairness theory explains fairness-driven sanctions? (What constitutes an individual's fairness preference?)

Falk and Fischbacher (forthcoming)). One implication is that—with the exception of Levine's (1998) approach—all fairness theories have difficulties in explaining spiteful sanctions. In addition, our data help us answer two important questions regarding cooperators' fairness principles. **First**, can the cooperators' sanctions be explained by fairness preferences that neglect the payoffs of individual group members and focus, instead, on the comparison of a player's own payoff with an aggregate measure of the group's payoff, such as the group's average or total payoff? **Second**, can the cooperators' sanctions be explained by approaches that assume that players want to minimize payoff inequalities, or can these sanctions be better explained by the motive to retaliate, i.e., the motive to harm those who acted unfairly?<sup>3</sup>

(pp.2019)



## 2. What are the main features of the experimental design? What functions do they serve?

- Task: a two-stage game.
- Stage 1:
  - A three-player one-shot Prisoner's Dilemma (PD).
  - Features?

	Both Other Players Defect	One of the Other Two Players Cooperates	Both Other Players Cooperate
Player $i$ defects	20	32	44
Player $i$ cooperates	12	24	36

- Stage 2:
  - Each subject is informed other players' decisions in Stage 1.
  - Each subject could then punish other players.

## 2. What are the main features of the experimental design? What functions do they serve?

- Treatment differences

Treatment	Sanction parameter $f$	Strategy method or not?
Low sanction (strategy method)		
High sanction (strategy method)		
High sanction (specific respond method)		

## 2. What are the main features of the experimental design? What functions do they serve?

- Treatment differences

Treatment	Sanction parameter $f$	Strategy method or not?
Low sanction (strategy method)		
High sanction (strategy method)		
High sanction (specific respond method)		

- What are the aims of each treatment, respectively?
  - Low sanction (strategy)
  - High sanction (strategy)
  - High sanction (specific)

## 2. What are the main features of the experimental design? What functions do they serve?

- Q1: Spitefulness-driven sanction vs. Fairness-driven sanction

## 2. What are the main features of the experimental design? What functions do they serve?

- Q2:  $|x_i - \frac{\sum x_i}{n}|$  minimization or not?

## 2. What are the main features of the experimental design? What functions do they serve?

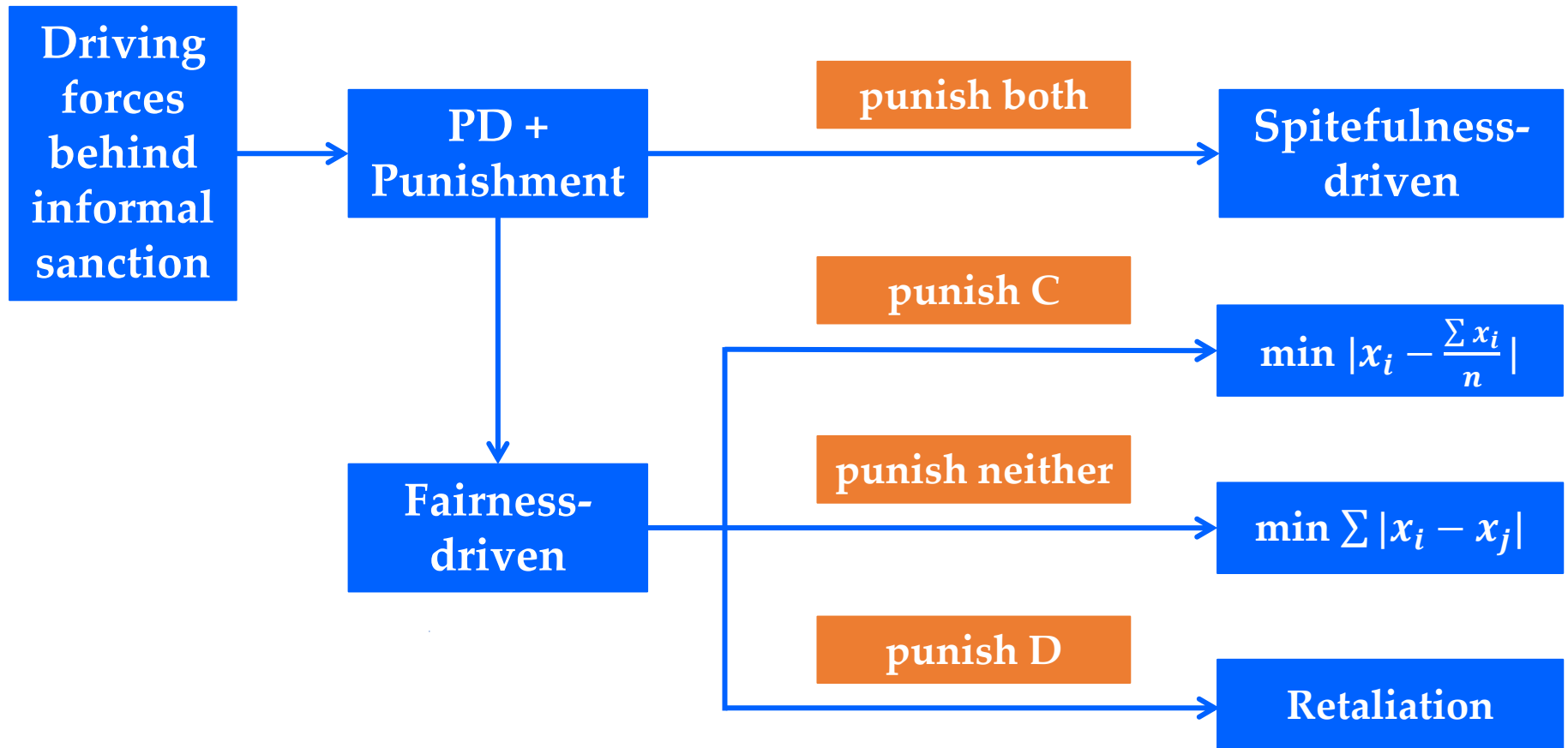
- Q2:  $\sum |x_i - x_j|$  minimization or not?

## 2. What are the main features of the experimental design? What functions do they serve?

- Q2: Retaliation or not?

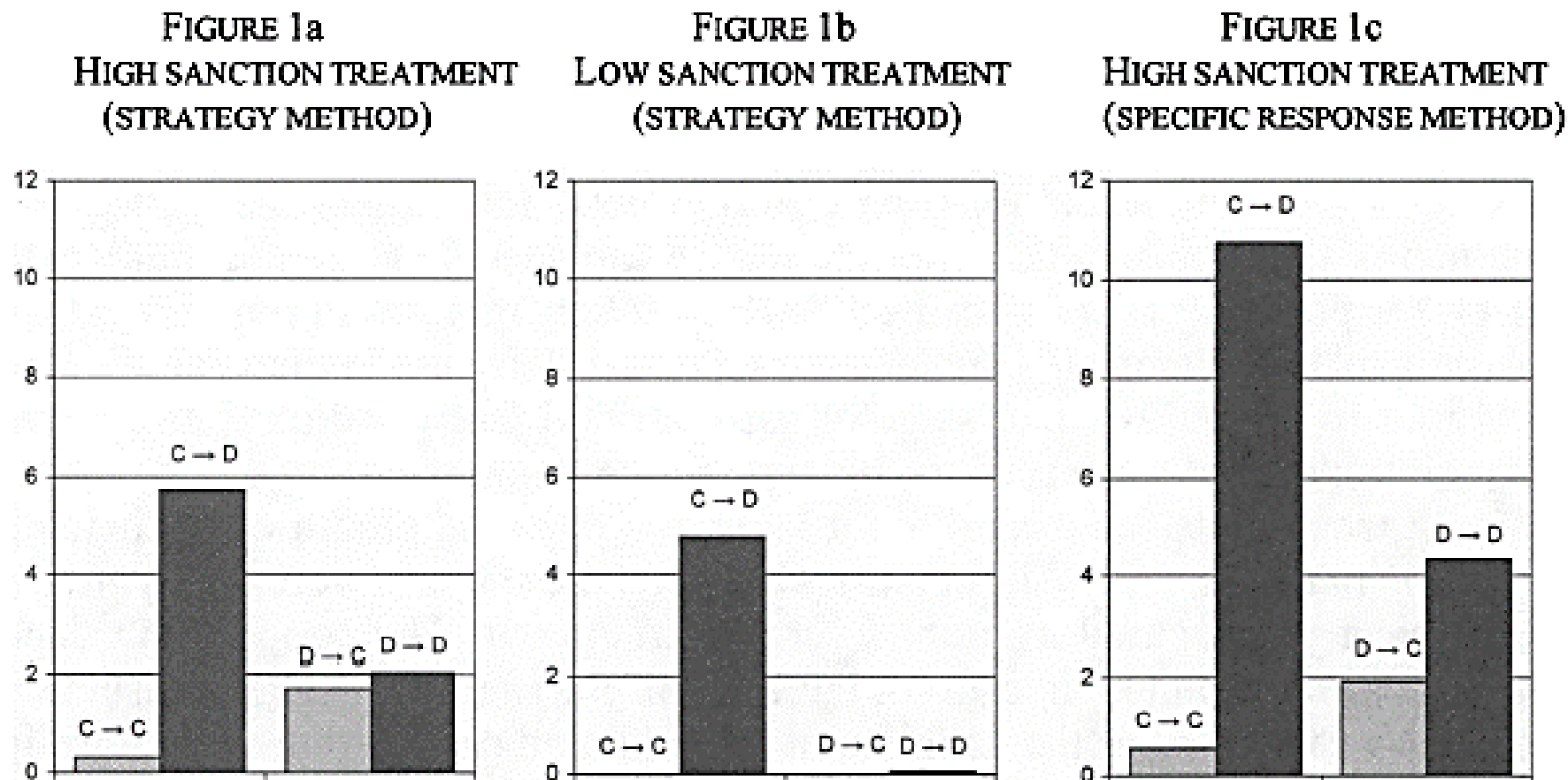
### 3. What are the main findings?

- The argument flow chart:





### 3. What are the main findings?



**FIGURE 1.**—Average payoff reduction across different treatments. Remark: C → C represents the situation in which a cooperator faces another cooperator; C → D is the situation in which a cooperator faces a defector; D → C and D → D can be interpreted analogously.

# More about Tutorial 3

- TB106
- Participate by your individual timetable
  - The lab only has 20 seats, we are unable to create an extra seat for you
  - If you come to the wrong session, we will not accept you into the lab
- Please line up outside of the lab, I will sign you up and assign you a seat number.

# Appendix. 1 A refresh of the two-player PD

- What are the features of a typical (symmetric) PD game?
  - Feature 1: Player A's dominate action is to defect.
  - Feature 2: Player A's payoff increases when the other player chooses C.

		Prisoner B (column player)	
		Cooperate	Defect
Prisoner A (row player)	Cooperate	( T , T )	( D , P )
	Defect	( P , D )	( S , S )
		Note: $P > T > S > D$ .	

# Appendix. 2 Other important experimental designs

- Between-subject design.
  - No subject participates in more than one treatment.
  - Why?
- Anonymity.
  - Subjects does not know the personal identities of their interaction partners, and all interactions between the subjects are anonymous.
  - Why?
- Neutral framing.
  - The cooperation decision is framed in terms of investments into a project.
  - The decision is framed as the assignment of deduction points to the members.
  - Using this frame is to avoid value laden terms such as “punishment ”or “sanction”.
  - Why this is important?

# Appendix. 3 A review of the strategy method

- First used by Reinhard Selten (1967) in an oligopoly experiment.
- Could you please use your own words to explain what it is?
  - Subjects specify a complete set of actions (i.e., a strategy) for each possible decision situation that might arise.
- Advantages:
  - To obtain data for all information sets of the game, especially for those that are rarely been taken.
  - To reveal more information about a player and his/her motivation (allows to classify types).
  - (Probably) to save time and money.
- Strategy method could induce different behaviour because...
  - Decisions are “cold”, i.e., hypothetical (see e.g., Brandts and Charness, 2000, Exp Economics).
  - Subjects have to consider all possible subgames, not only those who actually arise in the game.