“I'm just a soul whose intentions are good”: The role of communication in noisy repeated games

Antonio A. Aréchar • Anna Dreber • Drew Fudenberg • David G. Rand

Yale University • Stockholm School of Economics • Massachusetts Institute of Technology • Yale University

Introduction

• Existing theory is of partial use for understanding cooperation.
• Repetition can add equilibria, but cannot take them away.
• People do not always cooperate when cooperation can be one of the equilibrium outcomes.
• When does repeated interaction lead to cooperation?
• Noise reduces cooperation when intentions cannot be observed (e.g. punish accidental defections; Fudenberg et al. 2012).
• Cooperation rises if intentions can be seen (Rand et al. 2015).
• In real-world interactions people communicate intentions.
• Can cheap-talk communication promote cooperation in games with noise?

Experimental Design

• Indefinitely repeated prisoner dilemmas (continuation p of 7/8).
• Decisions changed 1/8 of the times (error rate).
• 2 communication conditions: Messages and No messages.
• 2 payoff matrices: Low and High returns to cooperation.

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<th>Low</th>
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<td></td>
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<td>1.1</td>
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<td>D</td>
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• Subjects choose action (and message) in each round.
• Subjects learn realized actions (and message), not intentions.

Results

1. Cheap-talk communication increased cooperation in High; but in Low, communication (initially) decreased it.

2. Most subjects lied rarely, and they lied less in High.

3. Subjects did condition responses on partner’s messages

4. Communication boosts the performance of cooperative strategies when the payoffs support cooperation.

Cooperative players earned more than non-cooperative ones with messages in High, the same without messages, and less in Low (regardless of communication).

Discussion

• When Grim is an equilibrium but not risk dominant over ALLD, people hesitate to cooperate due to strategic uncertainty.
• Cheap-talk messages of intended cooperation are somewhat believed and this leads to more cooperation.
• When Grim is not an equilibrium, communication doesn’t help because claims of “I tried to cooperate” aren’t believed. In fact, communication may hurt by making subjects more suspicious.
• Our results suggest that cheap talk communication, which is a common feature of daily life, can promote cooperation in repeated games, but only when there is already a self-interested motivation to cooperate.

Research Questions

1. Does the ability to send messages increase cooperation levels?
2. How honestly do participants communicate their intentions?
3. To what extent do participants condition on their partner’s communicated intentions?
4. Which strategies were most successful?

Contact
Antonio Alonso Aréchar
Email: antonio.alonso@yale.edu
Website: www.arechar.com
Phone: 203-809-7260

References

• This paper: Aréchar, A., Dreber, A., Fudenberg, D., Rand, D.G., 2017. “I’m just a soul whose intentions are good”: The role of communication in noisy repeated games. Games Econ. Behav. 104. 726-743.