

TIPPING VERSUS COOPERATING TO SUPPLY A PUBLIC GOOD

Scott Barrett

School of International and Public Affairs
& Earth Institute, Columbia University

Astrid Dannenberg

University of Kassel
and University of Gothenburg

Abstract

In some important multi-player situations, such as efforts to supply a global public good, players can choose the game they want to play. In this paper we conduct an experimental test of the decision by a group with fixed membership, playing over a finite number of periods, to choose between a “tipping” game, in which every player wants to contribute to the public good provided enough other players contribute, and a prisoners’ dilemma, the classic cooperation game. In the prisoners’ dilemma, the first best outcome is attainable, but cannot be sustained as a Nash equilibrium. In the tipping game, only a second best outcome may be attainable, but there exists a Nash equilibrium that is strictly preferred to the one in the prisoners’ dilemma. We show that many groups persistently choose the prisoners’ dilemma despite its strategic disadvantage, and that the groups that eventually choose the tipping game do better than the ones that stick with the prisoners’ dilemma. (JEL: E31, D31, D14)

The editor in charge of this paper was Juuso Välimäki.

Acknowledgments: We are grateful to Geir Asheim, Raphael Calel, Alessandra Casella, Bård Harstad, Robert Keohane, Brad LeVeck, Thomas Schelling, Alessandro Tavoni, David Victor, and two referees for comments on an earlier version of this paper. We particularly want to thank Geir Asheim for unravelling the vote-signaling effect in our model. We are also grateful to the MaXLab team at Magdeburg University for use of their laboratory. The work was financially supported by the Princeton Institute for International and Regional Studies and the ERC Starting Grant “Human Cooperation to Protect the Global Commons” (HUCO, Project number: 636746).

E-mail: sb3116@columbia.edu (Barrett); dannenberg@uni-kassel.de (Dannenberg)