Cooperation in the Prisoners Dilemma: The Evolution of Conditional Cooperators

- An Indirect Evolutionary Approach -

by

Frank P. Maier-Rigaud*

Abstract

The Prisoner's Dilemma is widely accepted as a simple strategic representation of social dilemmas. Standard non-cooperative game theoretic models predict either no cooperation or full cooperation under certain assumptions in the repeated version of the game. Since these limiting cases are rarely observable in both, the field and experimental laboratory, an alternative explanation is warranted. I argue that the simple dynamic evolutionary model proposed here is one possible alternative. The model distinguishes between conditional cooperators and narrowly selfish types. This is formally captured by an endogenous motivational parameter that characterizes each type. The evolutionary stability of cooperation depends on the extent to which type information is available.

* Max Planck Project Group on Common Goods, Poppelsdorfer Allee 45, 53115 Bonn, Germany; Workshop in Political Theory and Policy Analysis and Department of Economics, Indiana University Bloomington, USA, email: maier-rigaud@microeconomics.de.