Evolutionary Game Theory

Jörgen W. Weibull
Department of Economics
Stockholm School of Economics
P.O. Box 6501
SE 113 83 Stockholm, Sweden
e-mail: jorgen.weibull@hhs.se
url: http://www2.hhs.se/personal/Weibull

Abstract

This tutorial is focused on a selection of central concepts and results in evolutionary game theory. Point-valued and set-valued evolutionary stability concepts will be discussed and related to well-known solution concepts in non-cooperative game theory. Different versions of the replicator dynamic will be analyzed and dynamic stability properties of points and sets in these dynamics will be related to non-cooperative solution concepts. Stochastic population processes, for normal-form games recurrently played in large populations, will be analyzed. Long-run properties of these processes will be related to properties of the associated mean-field approximation, and thereby to non-cooperative solution concepts. We end by discussing desiderata for robust set-valued solution concepts in the light of population dynamics and non-cooperative game theory.

Bibliography


1Tutorial