

Model analysis

We replicated the basic results of Janssen (2008). The values are not exactly the same, for example due to different random number generators, but they are statistically very similar.

Indicator	Value Janssen (2008)	Value Replication
Payoff	0.81 (0.15)	0.87 (0.13)
# CC Games	405.7 (74.9)	433.0 (65.9)
# CD Games	25.0 (9.4)	12.8 (3.6)
# DD Games	0.7 (0.6)	0.2 (0.1)
# Withdrawn	68.6 (72.5)	54.1 (65.5)
Parameter α	0.76 (0.10)	0.83 (0.07)
Parameter β	0.41 (0.18)	0.45 (0.20)

The figure below shows the average payoff from 50 runs for different numbers of symbols. The black dots are the averages of Janssen (2008) with the standard deviation expressed in the lines. The red dots are the averages in the replication. The shape of the relationship is the same although the replicated figures lead to higher levels of cooperation for small number of symbols.

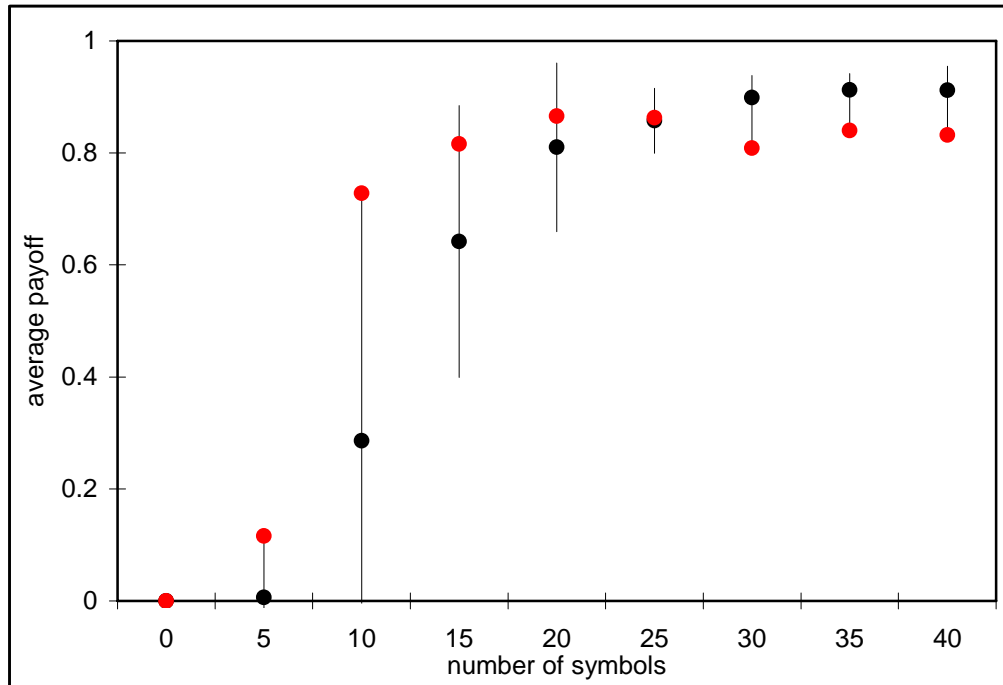


Figure. The effect of the learning rate on the average payoff. The dot represents the average of 50 simulations; the lines represent the standard deviation.