Pools

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Abstract

1 Introduction

The Santa Fe Institute Spring 2018 Challenge, [1], models the behaviour on investors.

2 Background

Brian Arthur [2] investigated the behaviour of a group of people deciding whether or not to visit the El Farol Bar in Santa Fe, guided only be attendance data from previous weeks. Arthur assumed that the visit to the bar would be enjoyable if fewer than 60 people attended, which corresponds to an investment being worthwhile only if there were not too many investors to divide the profit.

[4]

[5]

Kolkata Paise Restaurant [6] [7]

3 Methods

I developed model, *testbed.nlogo*, [8], using Netlogo, [9].

4 Results

4.1 Behaviours

What general behaviors arise in this system? How does the wealth of the agents change over time? At the aggregate level? At the individual level?

4.2 Diversity

How does the diversity of strategies influence the dynamics of the system?

4.3 Behaviours

Are there generally classes of agent behavior (say, based on what data they use, how they process it, or the agent's overall sophistication) that lead to better performance?

4.4 Violate Assumptions

What happens to the system if you violate one of the original assumptions of the problem and allow the agents to alter their strategies over time by observing the performance and strategic details of the other agents?

4.5 Mete-Agents

Suppose that meta-agents exist that can coordinate the behaviors of a subset of the agents (and split the resulting payoffs equally across the subset)—how does this impact the system's behavior?

4.6 Changes

How do the answers to the above questions change as:

- tau is altered?
- you change the total number of agents in the world?

5 Discussion

6 References

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