ABSTRACT

Strategic Manipulation in a Society with Indivisible Goods

Takeshi Kimura
The Bank of Japan

Shinji Mizuno Masao Mori
Tokyo Institute of Technology

We consider a problem of exchanging indivisible goods in a society, in which initially each agent has only one unit of indivisible goods respectively. Here we discuss the problem in the framework of social choice rule.

For this problem, it is well known that Top Trading Cycle Procedure (TTC) leads to a solution in the core ([8]). When the preference profile of the agents are not known publicly, a new matter whether they will have an incentive to manipulate strategically in revealing their preference profile arises. It is shown that strategic manipulation by an agent is impossible in TTC ([7]).

In this paper we further prove that strategic manipulation by any coalition is also impossible in TTC. First, we show that we can regard TTC as a kind of social choice rule by modifying the preference domain of agents in TTC. Then we will prove the strategic non-manipulability by using theorems in the paper by Dasgupta, Hammond and Maskin ([2]). Finally, we compare this result with previous results in some existing literature on strategic manipulation.