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How to fix the “aim for rejection” problem in Japanese daycare allocations: An approach from game theory

[Abstract]

In the Japanese daycare allocation problem, the “aim for rejection” problem is occurring and local governments are suffering from it. In this talk, I will apply game theory to investigate an appropriate way to fix this problem.

To see the outline of this problem, please imagine that you have a child and want to utilize a daycare service. You have to submit an application form, including your preference over daycares, to the municipal office. Since there are more applicants than available spaces, the local government decides who is assigned to which daycare. If you are allowed to utilize a daycare, then you are “accepted”; otherwise “rejected”. The problem is that some parents *intentionally* apply to a highly demanded daycare in an attempt to be rejected (I will explain why such an action is taken).

The analytical tool I use is game theory. In the above daycare allocation story, parents behave as if they play a game; they choose their action strategically in an attempt to obtain a better outcome. Game theory enables us to describe/predict participants' behavior in game situations. By making use of this strength, we can reach a better understanding of how to redesign the “game” of daycare allocation.

In the middle of this talk, I will provide a brief introduction to game-theoretic analysis. Hopefully, this talk encourages other researchers to use game theory in their analyses.