

## **Abstract**

In the cooperative game theory, we study only how to distribute payoffs by assuming that the grand coalition is formed. However, in real bargaining situation, the payoff distribution is considered with the coalition formation simultaneously. The players can make not only the grand coalition but also smaller coalitions. Also, they have to reach an agreement on just one payoff distribution. In order to know what happens in this situation, we design and run a laboratory experiment. As experimental results, we find the following things. First, the grand coalition is more likely to be formed when the core is non-empty than empty. Availability of the chat window is also positively correlated with formation of the grand coalition. Second, the payoff distribution the subjects agree with is depending on their power in bargaining. Unlike the other's bargaining experiment, the equal division is not very frequently adopted. Finally, we analyze the relationship between their payoff distribution and the solution concepts such as the core, the Shapley value and the nucleolus.