

Doctoral Dissertation Research in Economics: To Join or Not to Join: Coalition Formation in a Public Goods Game

Public Abstract

Public goods are things that can be simultaneously enjoyed several people and are vital to well-functioning societies and economic growth. Infrastructure provision, environmental protection, health and education, and research and innovation are some important examples. Additionally, such goods are non-exclusive, meaning once a good is made available, it is typically difficult to stop an individual from enjoying its benefit. As a result, there is a strong individual incentive to “free ride” and enjoy the benefits of the public good without paying for such goods or services. One possible solution, along the lines of community or collective action, is to consider provision of public goods through coalitions. While in practice coalitions, i.e., subgroups of individuals who agree to act collectively produce a public good, may form to help with public goods production, the conditions under which these coalitions are most likely to form are not well understood. This project incorporates behavioral economics into the research on coalition formation in public goods. The findings of the proposed study could have implications for many problems that we face today like climate change, sustainable development and provision of public services like health care.

This study uses theoretical and experimental methods to explore behavioral economics based explanations for the formation of coalitions and their role in provision of public goods. While existing public goods theory predicts free riding and inefficient outcomes, past experimental results suggest cooperation does exist with contribution rates at 40-60 percent of the efficient level. This suggests that the theoretical approaches are missing something important. Moreover, some of the earlier theoretical research has yielded unintuitive results, suggesting for instance that increasing either social preferences or the benefit from the private good decreases public good provision. The proposed model takes a novel approach, allowing for heterogeneity in privately known social preferences between members of society as well as variation in individual returns from the public good. Our two stage mechanism allows individuals to choose whether or not to join the coalition in the first stage. Once individuals learn the size of the coalition they can determine whether it is desirable for them to contribute to the public good in the second stage. As a result, despite individual social preferences being private information, our mechanism increases the size of the public good and thus outcome efficiency. We test the theoretical predictions of our model using incentivized laboratory experiments which will provide evidence on whether decision makers in a simple environment can achieve predicted outcomes. The results from this study will further facilitate our understanding on the importance of coalitions in provisioning of public goods.