## Report on Manuscript "Gerrymandering in the Laboratory"

## Summary

The authors provide a theoretical framework for gerrymandering and then bring it to the lab. They find that subjects do engage in gerrymandering, which is payoff-maximizing. This occurs despite subjects claiming of being opposed to gerrymandering.

## Comments

Although the authors took good care of the exposition of the paper and the reading flows smoothly, I see some reasons that jeopardize the contribution of the paper as overstated by the authors.

- 1. The authors highlight in several points of the paper that one of their key results is that, in the lab experiment, "subjects overwhelmingly engage in self-interested gerrymandering [...] despite the nearly unanimous claim among the subjects that they do not support gerrymandering." The experiment has a neutral framing with no reference to politics or gerrymandering. The post-study survey of the authors does mention gerrymandering explicitly. Hence, it is natural to think that subjects simply do not support gerrymandering when done by politicians to rig the election results and representativeness, but they are ok with the practice of gerrymandering when done in the lab by students to obtain a higher payment. I see the comparison of gerrymandering observed in the lab by the authors and the support of gerrymandering in the post-study survey as neither surprising, informative, nor conclusive. The neutral framing of the experiment makes me doubt subjects perceived the experiment as one about gerrymandering (as understood in media and politics) at all.
- 2. It is clear from experimental economics as well as from the authors' results of the experiment that subjects' behavior greatly differs from Nash predictions; subjects even allocate positive resources to districts with no strategic value whatsoever. In this light, I see a potential structural problem when they select the 5 maps of Figure 1 and base the entire paper (theory and experiment) on those 5 maps, as these 5 maps are strategically equivalent in the Nash equilibrium, which is however not played in the lab. The arbitrary choice of the maps out of the set of strategically equivalent ones could thus affect the results of the experiment.

3. The authors motivate the theoretical model on the basis that "the prior papers in this area have treated districting as a one stage game against nature, whereas in practice districting is only the first stage in a two stage game against another party." I disagree with the statement, which seems to be the key motivating factor for the theoretical model the authors propose. In fact, for instance, Pegden, Procaccia and Yu (2017, "A partisan districting protocol with provably nonpartisan outcomes") consider the districting problem as a competition between two parties taking turns drawing districts until the state is fully partitioned. Also, Ely (2019, "A Cake-Cutting Solution to Gerrymandering") considers a districting game where parties choose sequentially.

On a minor note, there are typos, such as "en expected, "3 district", and "the the".