

Reply to Referee 1 Sept 30, 2013

Geller Mustard Shahwan Focused Power 2013-42, received by Economics e-Journal Aug 21 2013

We thank Referee 1 for any time and effort spent in reading and reviewing our paper. Although our paper has been rejected, we feel that replies may be of use to some readers.

Cheers,
Chris Geller
Oct 9, 2013

Comments from Referee 1 are numbered. Replies follow letters.

- 1) "If it is true that there are focal points and that these consist in the presence (or absence) of the greatest player in the division proposal, why is it that the initial proposal often does not reach the majority?"
 - a. We assume that focal points that affect largest player's earnings for each specific profile also affect proportionately the frequency of the largest player being included in the initial proposals for rounds using that profile.
 - b. None of the profiles we used for this paper has a core. We would be surprised if the subjects who would benefit from other allocations of earnings (and holding a majority of votes) did not usually propose an alternative allocation.
- 2) "Authors implicitly assume that in the course of the experiment, the incidence of focal points disappear while new proposals replace the old ones. Why should this be the case? ..."
 - a. We implicitly we assume the *opposite* of Referee 1's claim. We assume that focal points affecting allocations at the end of each round also affect inclusion or exclusion of players in initial proposals of those rounds. See pages 18 and 19.
- 3) "Authors assume that the focal points manifest only in the over-or-representation of the most powerful player."
 - a. We assume that focal points that affect earnings of the largest player also affect inclusion of the largest player in initial proposals. We do not address focal points affecting other players. However, use of a fixed purse implies that focal points that affect one player would also affect at least one other player.
- 4) "The authors should consider also the shares of the other five players."
 - a. We could consider the earnings of any specific player each round. Since earnings for all players equals a set amount each round large and smallest player's earnings contain much the same information. See pages 16 to 17.
- 5) "In other words, the paper attempts to measure the incidence of focal points in the division, but it lacks a convincing theory or at least a plausible justification of the assumptions made."
 - a. Since our actual assumptions about the focal points (items 1-3) coincide with those of Referee 1, we hope that they will be accepted as at least plausible.
- 6) "The authors argue that the SSI is corroborated by the share received 'on average' by the largest player. Why do the authors consider the largest one only? What happens to the shares of the other five players? The authors should provide the (average) shares of the other five players and say whether these are correlated with the SSI or not."
 - a. See 4a above.

- 7) Referee's item 3) "The experimental protocol used by the authors allows for strategic manipulations. It would have been preferable to build an experiment using non-cooperative games with yield the Shapley value, e.g. Gul (1989) or Segal (2003)."
- a. Other experimental approaches would be interesting. Further research would be interesting investigating if and how often various coalitions formed during negotiations in the experiments for Focused Power.
 - b. Our methodology included incorporating an environment suited to the Shapley Value and few behavioral constraints on the subjects. This approach would permit continued analysis such as mentioned in a. above.
 - c. We believe that this paper is addressing enough issues with an innovative intentional approximation of an environment consistent with the Shapley Value, relatively unrestricted negotiation, and a measure of effects from focal points.
- 8) Referee's 4) "... the authors often confuse the Shapley value with the SSI. The latter is a measure of ex-ante political power.... Contrary to what the authors claim, the use of simple games to represent a political game is not due to the need to 'normalize' the index so that the sum of the shares is equal to one, but reflects the idea that the player that swings a coalition (the pivot) is worth the entire value of the decision (cf. Von Neumann and Morganstern (1944)). Apparently the authors do not give this point the right emphasis. I think this leads to the confusion between the Shapley value and the SSI.
- a. "the player that swings a coalition (the pivot) is worth the entire value of the decision" (for each permutation) is Shapley's value function in English instead of in mathematical notation. See the final three paragraphs of Shapley 1953. The referee's description of the SSPI resembles Shapley's description of the value.
 - b. We do not mention any *need* to normalize. We do not address "simple games" in general. We note that Shapley and Shubik (1954) expresses power as a portion (fractional or percentage) of total power in the system, based on the value.
 - c. Reviewer 1 uses the term "entire value of the decision". If we express players' ex-ante power in our games in terms of dollars, we would be using the Shapley value as expressed in Shapley 1953. If instead, we divide that ex-ante power by \$15, we have the SSPI.
 - d. See Shapley and Shubik (1954), footnote 7 for the relationship between the value and the power index. Note specifically that Shapley and Shubik (1954) presents Shapley (1953) as the proof for the power index.
 - e. If we "confuse the Shapley value with the SSI," Referee 1 might provide an example.
- 9) Reviewer's 5) Referee 1 states "The authors do not consider voting systems in which one or more players have veto power. Their justification is that they want to avoid incurring in very competitive players, who may find it convenient to destroy the payoffs rather than getting shares that are too low. I beg to disagree. On the contrary, I think that voting games with veto players would provide interesting insights on the behavioural distortions ... which act in political bargaining."
- a. The referee gives the incorrect reason for us not using profiles with veto players. The one such competitive subject that applied for our experiment did not participate in any rounds. We emphasise both why we exclude competitive subjects and explain the why we do not use profiles with veto power in this analysis.
 - b. Referee 1 begs to disagree with Referee 1's own conjecture of why we do not use profiles with veto power. Then presents a "disagreement" with which we agree – and that we consider an excellent topic for a different paper. Facilitating such research of effects from such other (not vote per se) factors is why we did this project. So we explicitly state in the abstract, introduction, and conclusion.
 - c. Referee 1 proposes a topic for our paper that is different from the objective we state in the abstract, introduction, conclusion and elsewhere. This proposal of a

different topic (if meant as a criticism) is directly contrary to Economics eJournal's declared instructions to referees. We explicitly state that we are *not* investigating the effects of behavioural distortions, although we use other plain vocabulary.

10) Reviewer's 6) The literature review is incomplete and makes suggestions.

- a. A complete review of the hundreds of articles addressing the Shapley Value and Shapley Shubik Power Index would be inappropriate for an article on an experiment, even if it were possible. Owen and Shapley (1989) and particularly Barr and Passarelli (2009) present interesting ideas for extending our research, but do not call into question our experiment structure. As we state, multiple sets of conditions can lead to the Shapley Value. We claim only to have approximated one reasonable set. We cite over a dozen articles to suggest the breadth of applications of the Shapley Value and suggest appropriate overviews. If we fail to indicate the breadth of applicability of the Value and SSPI, or fail to indicate the importance and research value of worldly variations from the axioms of the Value, then we would be happy to expand our literature review. Perhaps someone knowledgeable of the full breadth and depth of the literature on political power should submit a review, updating Felsenthal and Machover's work. We hope that all readers will see relevance of other work to ours, and ours to other work. We think that we can safely assume that the readers already know that the world is complex.

Sincerely,

Chris