

## Response to Referee 3

I want to thank the referee for his comments. Although his main point is that my effort was a wasted one at best, his review provides an opportunity to clarify some of the points that I am trying to make.

A replication in its essence is a type of commentary on a work of research. Given that one of the possible outcomes of a replication is that it refutes part or the entire original piece, part of the issue that I am trying to address is the credibility of the replication. Why should the replication be believed if it produces results that are contrary to the original? One potential problem with the credibility of the replication, as many have pointed out, is that there is an incentive to find something wrong with the original in order to get the replication published. To increase the credibility of replications, I am suggesting there should be some clear guidelines and boundaries as to what constitutes a replication.

### **Response to 2. The author's model**

The reviewer takes issue with the way the argument is being framed. Instead of thinking about the original author and replicator as being fallible or infallible, would it be better to contextualize the original paper and the replication in terms of their usefulness relative to a particular policy discussion? Either way, the core issue being addressed is the credibility of the replication. Why should it be considered in the discussion given that it may be flawed or given the inherent incentive to find fault in the original in order to get published?

I agree with the reviewer that the original author and the replicator are in the best position to know what each has done, but I would not say they are necessarily the best judges of the worth of their work. As I read that comment of the reviewer, I thought of the adage attributed to Max Planck - that progress in science comes funeral by funeral. In economics, one is often reminded that markets may have a very different idea about the worth of something than what the inventor or investor thinks. I do agree with the reviewer that there may be different categories of readers or consumers of the replication, such as members of the "critical scientific community," "policy advisors," and "decision makers," but I do not agree that policy advisors and decision makers should be dismissed as irrelevant in the discussion regarding the value of the research as the reviewer suggests.

As I read through the reviewer's comments, it would have been useful to me to know what he had in mind, because the words written at times seem to present inconsistent ideas. The reviewer presents the original author and the replicator as the "immediate judges of the worth of their findings as contributions to scientific knowledge in their sphere of competence." What if they disagree? Does one contribution have value and the other not? If they are the judges, then do they even care what the other has written? I think the reviewer and I can probably both agree that human knowledge is ultimately a social construct, but the reviewer seems to take for granted that the value of research findings is immediately apparent and accepted. The starting point for my paper, though, is that the value of a replication is not always obvious, and that there are reasons why a replication may be viewed with suspicion. If the reviewer does not accept this as a valid starting point, it may be one reason that he sees the paper as not adding much.

### **Response to 3. What is replication?**

The reviewer comments that it is difficult for him to “fathom the precise nature of the replication process, as he [Hannum] understands it.” This indicates to me that the steps that I describe for replicating a paper, contrary to the reviewer’s comment, probably sound very bizarre to a psychologist, which is all the more reason for my advocating that what a replication is in economics should become a more standardized commodity that is easily understandable, and that papers built on a replication should clearly note where the replication ends and where any extension begin.

### **Response to 4. Tests of significance as arbiters**

The reviewer’s comment appears to be a solution in search of a problem. It seems as though the reviewer has in mind a different type of replication than what my paper is discussing. What I am discussing starts with the replicator using the original author’s data and code to see if they yield the results in the published paper rather than redoing an experiment.

### **Response to 5. Should all research be replicated?**

Research findings are strengthened if they hold up in replications. I think that the reviewer and I can probably agree that replications are one way, but not the only way, to validate original research findings.

Again, I would like to thank the referee for his comments and for providing an outside perspective on replications in economics.