

Replication studies in economics — How many and which papers are chosen for replication, and why? (Mueller-Langer, Fecher, Harhoff, & Wagner, 2019)

Academic research can be composed of readers, journals, researchers and peer reviewers. A researcher's job is to provide studies in the form of articles. Journals provide readers with immaculate novel research. Peer reviewers ensure that submitted papers are worthy of being published. The chain ends with readers learning new ideas from the knowledge frontier. As a market, incentives play an important role on the product, which are research articles. In this framework, replication studies – those that try replicate a result of a previous paper – have ambiguous appeal to readers and journals. Replication papers can provide a new idea if it contradicts existing knowledge. Those who arrive at the same conclusion, are not likely to be published on academic journals.

Replication is at the heart of the scientific method (Popper, 1959). As pursuers of truth, one experiment or data set could be a statistical anomaly which can give a false positive - finding a statistical effect when there is none. One way to find false positives is for other researchers to do the same work and arrive at the same conclusion. Interestingly, only 130 of 1243 (0.1%) of published papers are replication studies (in the top 50 journals from 1994 to 2014).

One Sentence Summary

Replication studies are scarce in formal academic work, but their role is essential. As it is, incentives in this market do not promote truth seeking, rather they promote anomaly seeking.

Main Findings

Literature has identified three incentives for researchers to replicate studies: impact, quality barriers and replication costs.

Contradiction is the main driver for publishing a replication paper. These have higher chance of being published. Because it challenges existing knowledge which readers love. They happen on papers with high impact on policy making or academic thinking. When a researched contradicts a famous study the probability of publishing increases. On the other hand, when they replicate a low impact paper, the same probability goes down. Due to the small interest of readers on these results.

High quality control on academic journals disincentivizes replication. Top journals are known for their low acceptance rate and arduous peer review process, meaning their quality

control is top notch. One can assume that those papers are almost impenetrable. If a researcher wants to publish a replication study, he/she will be looking to replicate in lower ranking journals.

Replication costs declined, in some papers, when mandatory data disclosure was introduced in 2004. Replicating a paper requires the use of the same data and methodology. The cost of replication is high when there is no access to the data or to the step by step process of processing it. Making the data and methodology available raises the probability of a replication study being published.

Concluding Remarks

In economic research, publication bias and the low number of formal replication studies are consequences of misalign incentives. Although this paper focuses on economics, the same situation can be found in social psychology, political science and biomedical science. Expanding on the mandatory data disclosure policy can be a good solution. However, deep changes to the incentives in academic research are needed to fix the misalignment.

Reference

- Mueller-Langer, F., Fecher, B., Harhoff, D., Wagner, G.G., 2019. Replication studies in economics—How many and which papers are chosen for replication, and why? Res. Policy 48, 62–83. <https://doi.org/10.1016/j.respol.2018.07.019>.
- Popper, E.R., 1959. The Logic of Scientific Discovery. Phys. Today. <https://doi.org/10.1063/1.3060577>.