Grant Funding: Known Problem Areas & Likely Solutions

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A recent article published in PLOS One raises questions over the need for competitive research funding. There are many problems with how funding agencies currently operate. Academic researchers might not receive funding because of gender, affiliation, or ethnicity biases. In addition, deciding who receives federal funding is an expensive process. The process also seems to be unreliable. Luck plays a bigger role than it should in the grant award process.

Remove the Competition

There have been suggestions to fix the process. Funding agencies could more carefully select their reviewers. They could also award grants by assessing academic researchers instead of grant proposals. Making the peer review process transparent could force reviewers to be more thorough. Funding agencies could also combine a simpler review process with a lottery.

A shift in the funding process could mean giving money to researchers and not their projects. There are many ways that this could happen. Funding agencies could give grants based on merit. This would involve assessing a researcher's track record.

However, this does not work well for young researchers. Therefore, a funding lottery could be used. This would mean researchers would be randomly funded. All federal funding could also be evenly distributed among scientists.

This concept of egalitarian funding is the focus of the PLOS One paper. This approach would end bias. It could also reduce the incentive to commit academic fraud. Having steady funding could also keep talented academic researchers from leaving their labs. It would be much cheaper to administer egalitarian grants. The data suggest that researchers with large grants generate less impact per dollar. Awarding grant money equally could result in more effective grant usage.

Study Reveals the Possibilities

The study focused on the Netherlands, the United States of America, and the United Kingdom. The authors assumed that the research project being funded would last for five years. Based on the amount of Dutch federal funding available, each professor would get €390,000 or $507,000. If the researchers formed groups of five, each group would have $2.5 million. Dutch institutions usually pay their researchers' salaries. This means that all of this money could be spent solely on research.

The authors assumed that current PhD student and postdoctoral fellow rates would not change. This means that a Dutch researcher would have about $160,000 left to spend on equipment and travel. If they formed research groups of five, this would mean there would be $800 million to spend over five years.

In the United States, each researcher would get about $553,000 over five years. This would allow them to pay PhD students and postdoctoral fellows. A research team of five would then have about $2.1 million to spend on travel and equipment. This would mean each professor would have about $418,000 in their research budget. (American professors' salaries are also paid by their institutions).

In the United Kingdom, each researcher would have $364,000. The authors assumed that the UK and the Netherlands had similar employment rates. In this case, each researcher would have about $87,000 over five years. A five-member research team would have $717,000 at their disposal. In the United Kingdom, universities can choose how to spend the grant money. It is possible that some of the grant money received is used to pay staff salaries.

Pros and Cons

This egalitarian model is very different from the current way of awarding grants. The paper suggests that this could be a useful way to keep research labs afloat. There would be enough money for students, postdocs, equipment, and travel for most researchers. However, this depends on the nature of the research. Some experiments are significantly more expensive than others. These budgets could be supplemented by the resources currently spent on grant review.

One of the criticisms of this paper is the fact that the grant award process currently controls the number of researchers. Under the egalitarian model, scientists would have to compete for faculty positions. This would qualify them to receive their share of federal funding. Since there would be no small grants, it would become an all or nothing situation.

Another criticism is the automated way of assessing an applicant's research track record. Any metric that is used to determine who should be funded could be manipulated. Scientists have been known to commit research fraud in search of prestigious publications. There have also been instances of fake peer review. Scientists have even formed groups to artificially inflate their citation rates.

The current way of allocating research funding has some flaws. It is an expensive and time-consuming process. There are also biases in the way reviewers assess applicants. It has been suggested that funding agencies change the way they operate to improve the way grants are awarded. One fairly radical suggestion is to evenly divide federal funding among all scientists. This might be one way to help research groups move forward. It would also ease the burden on grant reviewers. Under this system, researchers in more expensive areas may need supplementary funding.

Have you faced similar issues in funding your research? Let us know your thoughts in the comments below!

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