

The peer review process also provides a way to systematically award funds to "better" projects that may prove to be more useful than others.

the US is that there's also no uniform method by which to implement peer review. In this respect, the peer-review itself must be scrutinized for each funding agency, making wide-spread changes more difficult to

more difficult to enact.

he purpose of the peer review process is to ensure the highest-quality and most promising research projects get funding. Some more goals include helping agencies develop research priorities,

identifying research gaps, help scientists improve their proposals, and spend taxes wisely

## Question 1:

According to the text, the peer review process is designed to find and award funds to the proposals with the most scientific merit and promise for the country, chosen objectively by experienced scientists. A con is that this process may not be very objective as fields get more specialized and established scientists will be able to recognize other established scientists' work. Even if it is not completely objective, the biggest pro of this system is that people who come from a scientific background decide which research is the most promising, not policy-makers who don't really understand it.

On its surface it makes sense. Having experts on a subject review the merits of research is on its surface a good idea. Unfortunately it provides some bad incentives. If two researchers are studying similar things there is an incentive to poorly review opposing research. Also importance is evaluated which is a difficult metric to evaluate. The system can be gamed, several journals allow authors to suggest reviewers I imagine the federal process has similar issues. Also the more innovative the research, the harder it is to find someone that understands it properly and can properly evaluate its importance.

**If universities cannot afford to build their own facilities, they should be able to compete for federal money for this; any institution with potentially good ideas that could benefit society should be able to pursue them**

**I think that moving funding from a federal level to the university level would help to distribute funds in a way that would be more stable and more connected to the university's research community needs.**

**I would like A system where the federal government funds small but numerous regional research facilities with the aim to provide better access to research equipment , etc**

**I think one of the awesome things about going to a research is that students can get smaller scale experience with various aspects of research before heading into the professional world**



**the best way to measure the impact of federally funded research would be through what contributions it has made to human knowledge**



For things like medical research, I think that it does make sense for there to be some sort of expectation that a new cure or benefit for humanity be developed. However, I think that the loss of passion for discovery in science really sucks and perhaps stifles the possibility of large scale changes in understanding of the universe being discovered. I think the expectation of specific technological innovation stemming from tax dollars comes from a loss of this passion for discovery among the general public -> symptom of that bigger issue.

I know this will be an unpopular opinion with professor Bothun, but I do think that ROI should be used to justify federal and really any government funded project or program in the US, and science should not be exempt. I would compare this to the mind set that since I pay taxes, I expect the public roads to be in decent shape, the police to keep crime to a minimum, and the schools to educate my children. So, if my money is going to a lab, I expect it to be helping the public good in a way that the average American can see. This is why I was not surprised to see the NIH's budget to be a lot higher than any other science organization's.

