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COMMENTARY

Not so fast with fast funding

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ABSTRACT

In the wake of the COVID-19 pandemic, many have become increasingly dissatisfied with how science funding is distributed. Traditional grant funding processes are seen as stifling the creativity of researchers, in addition to being bureaucratic, slow, and inefficient. Consequently, there have been increasing popular calls to make "fast funding" – fast, unbureaucratic grant applications – a new standard for scientific funding. Though this approach to funding, implemented by Fast Grants, has been successful as a pandemic response strategy, we believe there are serious costs to its wide-scale adoption, particularly for transparency and equity, and that the purported benefits – increased creativity and efficiency – are unlikely to materialize. While traditional funding mechanisms are certainly not perfect, scientific communities should think twice before adopting fast funding as a new standard for funding.

KEYWORDS

Science funding; science policy

The COVID-19 pandemic created an urgent demand for fast, efficient science funding. In April 2020, Fast Grants answered this demand. The program boasted a 30 minute application and 48 hour response time. There were high profile successes; the trial that showed that the obsessive compulsive disorder medication fluvoxamine was an effective treatment for COVID was funded in part by Fast Grants (Thompson 2021).

Fast Grants is an instance of what we call the "fast funding" model of scientific grant funding. Fast funding schemes are unbureaucratic, with fast submission, turnaround, and completion/implementation times. In the wake of the success of Fast Grants, there have been increasing popular calls to make fast funding a new standard for scientific funding (Thompson 2021; Else 2021; Piper 2020). These calls tend to emphasize the downsides of traditional funding, e.g., that provided by the NIH and NSF. They frame traditional sources of funding as stifling the creativity of researchers, in addition to being bureaucratic, slow, and inefficient. While we do not want to argue that enabling quick access to funds was not a beneficial pandemic response or that there are no problems with traditional science funding, we

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would like to caution against taking fast funding to be the new standard for scientific funding in general. Here, we argue that there are serious potential drawbacks to the fast funding model regarding transparency and equity, and meanwhile many of the purported benefits are conjectural at best.

Increases in creativity and efficiency are unlikely

Two purported benefits of speeding up the grant application process are increased creativity and efficiency. Fast funding proponents argue that needing to appeal to a panel of many reviewers in a long bureaucratic review procedure (as is the case for many grant-giving agencies like the NSF and NIH) stifles creative proposals in favor of more crowd-pleasing research (Thompson 2021). However, even if a proposal only needed one reviewer to sign off, we would likely still not see the desired level of creativity in research; a mismatch exists at the level of individual reviewers between how much creativity is valued and how much it factors into evaluations (Lee 2015).

Additionally, we argue that there is a tension between fast funding's short time frames and promoting creativity. First, for Fast Grants, funded projects are already in progress and can be completed in six months. This seems to rule out innovative, long-shot projects and instead favor established projects with high likelihoods of success. The short turnaround time can disincentivize creative research, such as interdisciplinary or collaborative projects, which often require more time to complete. The original organizers of Fast Grants themselves acknowledged that they "pursued low-hanging fruit and picked the most obvious bets" (Collison, Cowen, and Hsu 2021). In our view, this is not a quirk of Fast Grants, but a source of concern for any fast funding scheme with similar requirements.

Second, attempts to speed up the process of obtaining and implementing grants are likely to exacerbate the aspects of "fast science" which stifle creative thought. Traditional funding may feel burdensome, but the process allows enough time to sharpen one's proposal and think through potential problems. Also, any new funding scheme would be instituted within the current "publish or perish" scientific culture, which encourages focus on short term payoffs and output quantity at the expense of broader interests, diversity, reflection, and big theories (Frith 2020; Fischer, Ritchie, and Hanspach 2012). The slow science movement has already argued that scientists sometimes "play it safe" in order to keep up (Frith 2020; Fischer, Ritchie, and Hanspach 2012).

Proponents of fast funding also stress that their model will increase the efficiency of science, but we should not conflate speed and efficiency. There are existing concerns that the quality of research goes down when the speed of science increases (Fischer, Ritchie, and Hanspach 2012). Certainly, some

research projects are capable of producing useful results in a short time frame, and those projects could potentially benefit from a fast funding model. But we would emphasize that, for many scientific projects, long timeframes are simply more efficient. Additionally, if the end product of fast science rests on smaller, shorter studies, further work may be needed to achieve significant or actionable results. If projects are believed to have been rushed, the scientific or policy community may require additional studies before acting on the results.

Fast funding comes at the cost of equity and transparency

Making fast funding a new standard for scientific funding also has serious potential drawbacks for equity and transparency. Fast funding requires less time on the part of researchers in part due to streamlining the application process, requiring shorter descriptions of the project. Less information about the project means that reviewers will have to make use of other available information. This confers increased importance to aspects of the application like institutional prestige and researcher identity. A natural worry is that this will worsen existing Matthew effects (Bol, De Vaan, and Van de Rijt 2018; Merton 1968). In fact, a large portion of the grants provided by Fast Grants went to researchers at top twenty institutions, despite the fact that institutional environment or reputation were not (formally) included as part of the assessment criteria (Collison, Cowen, and Hsu 2021).

Increased reliance on fast funding also has the potential to exacerbate inequities when it comes to gender, race, language of origin, and so on. Bias is more likely to affect outcomes when decisions and evaluations are made quickly rather than through careful processing and/or using explicit evaluation criteria (Lee 2016), and implicit racial bias may have more impact on outcomes when reviewers have more discretion on how to weigh or interpret review criteria (Hodson, Dovidio, and Gaertner 2020; Norton et al. 2006). Additionally, the fast funding model prevents certain strategies applicants use to counteract bias. For instance, women put in greater effort to increase the quality of submissions in order to counterbalance the effects of bias, therefore reducing men's advantage in successful grant applications (Lee 2016). The shorter the application, the more difficult it is to employ this strategy. Expected increased disparities in funding would ramify and impact the countless other aspects of a researcher's career that are affected by past funding, e.g., future productivity, hiring, and funding.

The nature of the post-funding requirements of fast funding are also likely inequitable, in our view, due to expected greater demands on women's time. Women take on more service commitments to their universities and departments than men (Guarino and Borden 2017). They also devote more time to family care, a fact that the NIH is trying to address through grants targeted at

researchers facing these external commitments (Reardon 2020). A fast turnaround from receiving funding to publishing results (which for Fast Grants is only six months) does not allow for the flexibility needed to meet shifting internal and external commitments. Coupled with a lack of clear parental or family leave policies, this should make the fast funding model worrying for women researchers, and may lead to a chilling effect among potential women applicants.

Fast funding also involves trade-offs with transparency. This applies to fast funding generally, given its unbureaucratic nature, but Fast Grants provides a clear example. Fast Grants does not release a full list of funded projects, let alone specific data about funding amounts, PIs, and the like. We have just argued that fast funding may exacerbate gender disparities in funding – failing to make funding data public prevents this claim from being empirically tested. The NIH, in contrast, makes this information public, and the data have proven to be a fertile ground for the science of science, e.g., in showing that first-time female PIs receive smaller NIH grants than their male counterparts (Oliveira et al. 2019). This lack of transparency also undercuts the idea that fast funding is an "experiment" that can help us determine the relative efficacy of various funding models (Thompson 2021); how could we draw any conclusions from such an experiment without the proper data?

The role of fast funding

There is a clear difference between taking Fast Grants to be a temporary response to crises like the COVID-19 pandemic and taking it to be a model for how we ought to distribute scientific funding generally. The latter seems to be what many advocates of fast funding are promoting. While the status quo of grant funding procedures is far from perfect, we believe that reliance on fast funding will have serious negative consequences for transparency and equity in scientific communities, and will meanwhile fail to live up to the high hopes of its advocates. Finally, like it or not, fast funding also pushes a classic public institutional mechanism into the realm of the free market and private philanthropic mechanisms.

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