Shortsighted priorities

The U.S. president’s proposed budget for next fiscal year, released on 23 May, reflects a shortsighted and misinformed understanding of the impact that government investments in science have on the lives of people throughout society, far beyond just those doing research. Thankfully, this document does not determine future government spending; the U.S. Congress, from which substantial bipartisan criticism of the budget has already emerged, establishes this subsequently through the appropriations process. Nonetheless, this budget is an important statement of the priorities of an administration that, despite its bold promises of economic prosperity and American greatness, seems not to grasp fundamental elements underlying decades of prosperity.

The budget includes dramatic proposed cuts to agencies that are major supporters of scientific research: an 11% cut (relative to the current enacted budget) to the National Science Foundation, a 22% cut to the National Institutes of Health (NIH), a 17% cut to the Department of Energy’s Office of Science, and substantial proposed cuts to other science agencies. Yet progress in technology, health, economics, and other endeavors is dependent on a knowledge landscape, built in large part by fundamental research and curiosity about basic questions, which then fosters identification of applications, development, and commercialization. Without the foundation of fundamental research, almost always too decoupled from specific applications or too long-term to be supported effectively in the private sector, the knowledge base is too incomplete to support future advances. As much as we have learned, big surprises are still common, indicating that there is still much that remains to be discovered and exploited for the benefit of humankind.

The president’s budget also includes other policy recommendations of questionable merit. For example, it proposes capping the NIH “indirect” cost rate at 10% of total research costs. Indirect costs are currently negotiated by each institution through a well-defined process, with reimbursement averaging more than 30% of total costs. This recommendation appears to have been arrived at with very little analysis. Indirect costs cover a range of expenses related to facilities and administration, many of which are as essential to research progress as those covered by direct costs, just accounted for in a different way. Increasing the efficiency of the federal research investment is an important shared goal, but refinement of indirect cost reimbursement needs to be informed by careful analysis of the basis for current rates. Any refinement should focus on incentivizing institutional behavior that increases the sustainability of the American research enterprise. But make no mistake, arbitrary cuts to indirect cost rates will greatly harm science, hamper progress, and substantially damage many research institutions.

Scientific opportunities at present are breathtaking, with novel and powerful tools enabling new research approaches. These opportunities are matched by tough challenges. Strategies to address these challenges will almost certainly require new fundamental knowledge.

Congress must now take the next steps. Based on the appropriations bill passed on 4 May to fund the U.S. government through September, Congress is more supportive of federal funding of science than is the administration. However, this support should not be taken for granted. Citizens should take advantage of this opportunity to share their experiences and facts about the importance of federal support for scientific research with their congressional representatives. Help them understand and appreciate the role of federal support for scientific research in American society and the potential consequences of the draconian cuts to science outlined in the president’s budget. The United States should not back away from its leadership position in science.

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