FIRST Act Could Widen Nation’s Innovation Deficit

By Peter McPherson and Hunter Rawlings

In 2007 Congress and Pres. Bush responded to an alarming report by The National Academies entitled “Rising above the Gathering Storm.” The report provided hard evidence that our nation’s global leadership in scientific research and innovation was threatened by lagging federal investment and the growing strength of scientific enterprises in the rising economies of Asia. Congress passed the America COMPETES Act, which established a bipartisan vision for revitalizing the nation’s research and innovation enterprise.

Seven years later the House Committee on Science, Space and Technology is considering the Frontiers in Innovation, Research, Science and Technology (FIRST) Act, a measure that partially reauthorizes the COMPETES Act but does not live up to that original vision. It does little to close, and could widen, what we now call the nation’s innovation deficit.

Last year the business, scientific and higher education communities agreed on guiding principles for sustaining the COMPETES Act. The FIRST Act falls short of these principles in too many areas.

A key principle is that federal scientific agencies, guided by their advisory boards, should continue to set priorities for funding within and among the full range of scientific disciplines. This bill, however, significantly cuts specific areas of National Science Foundation (NSF) research. First, it cuts the social, behavioral and economic sciences, which are vital to solving our economic, health and security challenges. Better understanding and combating terrorism and cyber warfare, improving disaster preparedness, fighting crime and changing behaviors to combat global health problems are just a few of the many areas where such research has played a major role. Second, the bill cuts the geosciences, which are critical to understanding our planet.

The NSF, guided by the independent National Science Board, has for decades prioritized its portfolios to advance the nation’s scientific and research enterprise, and to address major societal and economic challenges. The results have been extraordinary. To move away from this practice is troubling.

Another key principle is to reduce unnecessary or duplicative federal regulations. Yet the bill has provisions that seem to reflect a view that science and scientists are a problem rather than a vital resource for the nation’s economy, health and national security.

For example, despite strong, existing scientific misconduct policies, the bill adds for NSF researchers stiff penalties that exceed those of other agencies. To what purpose? Another
provision would require scientists whose NSF-funded research has lasted five years to prove that any additional funded research will be “original…and transformative,” even if the work is building productively on such research earlier in the grant. What is gained by imposing such an unnecessary requirement?

Moreover, the FIRST Act would undo the policy agreement that should soon give the public free access to the published results of federally funded research no more than 12 months following publication. Rather, the bill would keep the results from free public access for two years or more.

Finally, an important guiding principle was to set funding targets for the NSF and the National Institutes of Standards and Technology that would permit real growth to stimulate long-term competitiveness and economic prosperity. Yet the FIRST Act does not even keep pace with inflation for these agencies. The act gives the NSF a 1.5 percent budget increase from fiscal year 2014 to 2015, for instance, whereas inflation is anticipated to be 1.7 percent.

Nearly 70 years ago this country adopted an approach to research that supported scientists at universities in order to combine research and education, grounded in the notion that science should be funded based on merit, not politics. It was a fundamentally conservative notion. Other countries relied on a government research apparatus but this country planted seeds at institutions—in Columbus and Berkeley, in Baltimore and Chapel Hill, in College Park, College Station and State College. And the seeds sprouted. Several technological and medical revolutions later the world gets it and is beginning to replicate our success. Only one major country is starting to move away from this model: the U.S.

We are eager to work with sponsors of the legislation on changes that truly could make it a visionary measure.

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