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Federal Science Funding Won't Accomplish Anything the Private Sector Can't Do Better

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A bipartisan group led by Senate Majority Leader Chuck Schumer (D-N.Y.) wants to counter China with legislation to dramatically increase government funding of pure science (science that is mainly concerned with theory rather than practical applications). They call their bill the U.S. Innovation and Competition Act. But if they really want to spur innovation and competition, they should be trying to slash science subsidies, not increase them.

The most potent criticisms of the government funding of science have come from government agencies themselves. The first came in 1969 when the Office of the Director of Defense Research and Engineering analyzed 700 research "events" that had led to the development of 20 weapons systems—finding that only two of those events were in pure science.

Then the Congressional Budget Office (in both 1991 and 1998) and the Bureau of Labor Statistics (2007) reviewed the entire academic literature, finding that study after study showed that the research projects that governments funded had failed, on average, to generate profits: in contrast, the research projects that the private sector funded were, overall, highly profitable.

Finally, in 2003 the Organisation of Economic Cooperation and Development, on studying the growth rates of the 21 leading world economies between 1971 and 1998, found that whereas levels of privately funded R&D correlated strongly with national rates of economic growth, there was no positive impact on GDP per capita from publicly-funded research and development.

Government funding of science isn't just ineffective; it crowds out private sector success. When the government subsidizes a company's science, or when the government pays for a research program, that company or that program will benefit. But the economy at large will suffer, because scientists have been pulled out of the projects the market was trying to fund.

Many view government funding of science as a foregone conclusion. But while the federal government has long funded so-called "mission research," such as the Coast Survey (1807), it didn't start to fund pure science until 1950, when it established the National Science Foundation (NSF).

The blueprint for the NSF was provided by American engineer Vannevar Bush. In his "linear" or "pipeline" model, he proposed there were both military and market failures in pure science: Only if the government funded pure science would U.S. technology flourish. In the ensuing years, much federally funded research has proven him wrong.

This is a tough story to propagate because the vested interests are aligned. The universities and the scientists lobby for governments to give them money on their own terms; industry lobbies for subsidies; and governments enjoy distributing research money, as the Medicis once did to Galileo. But the data show that these schemes will not benefit the economy.

Advocates for government funding of science will point to the many good things it has helped produce, including the internet. Vast funds for research will indeed yield good things, but the government studies cited above show that the costs of that research merely equal the benefits. In stark contrast, the costs of private research are *dwarfed* by their benefits. The plural of anecdote is not data; and if we are to get policy right, we should look to systematic cost-benefit studies, not anecdotes.

After the Soviets launched Sputnik in 1957, the federal government hugely increased its funding of research. Yet rates of growth in U.S. GDP per capita did not rise, and rates of productivity growth actually fell. That implies that government funding of research crowded out more useful work

Today, China has only a quarter of the U.S.'s GDP per capita. The federal government need not create a bogeyman out of an economic runt. Nor need it repeat the wasteful science expenditures it made after 1957.

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