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## Science's Sputnik moment

By Nancy L. Zimpher and Samuel L. Stanley Jr., Commentary  
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The vocabulary of our national debate has been dominated by a pair of fiscal S-words: sequestration and shutdown. University presidents like to use another S-word, Sputnik, to explain the great fear of research institutions like ours: If public officials make the wrong budget choices, they can seriously damage America's ability to compete scientifically.

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But finally, the news is better. Both houses have passed a budget compromise. It is far from perfect, but it would at least take a step back from the brink, averting \$63 billion in automatic cuts that would otherwise have taken place in federal fiscal years 2014 and 2015. It won't fully restore the research cuts that have concerned university administrators so deeply. But it does move the needle in the right direction.

As we focus intensely on this moment, let's not forget 1957, when we learned what it felt like to lose a scientific race. When the Soviet Union launched the first satellite, the faint radio pulses of Sputnik 1 sounded a loud alarm that woke America up. It was clear evidence that a key adversary was paying more attention to one emerging area of science than we were.

In response, Congress passed the National Defense Education Act of 1958, a first step toward better scientific funding. Now we face our own Sputnik moment. We must avoid a widening innovation deficit — the gap between what we should invest in research and education and what we do.

It's easy enough to elicit the public's sympathy when budget battles inflict pain on many people in highly visible ways. Unfortunately, it's not nearly as easy to arouse public outrage when the pain involves scientists working behind laboratory doors.

At the end of the debt ceiling crisis in 2011, the Budget Control Act set up automatic cuts — the sequestration or sequester — designed to be so draconian that Congress would do anything to avoid letting them happen.

But Congress couldn't agree on a rational approach to spending and deficit reduction, and they did go into effect. We all remember, for example, their impact on airline travel. Congress acted quickly to fix that.

As the cuts continued, President [Barack Obama](#) did mention the potential damage to research. By and large, though, the public's attention focused on other impacts that were more widespread and painful, such as government workers hurting for basic necessities, food

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inspections curtailed, and national parks closed down.

As citizens, we share those concerns. As education leaders, we have to tell our research story and make sure it gets funded.

The blunt truth is this: Sequestration slows science. In October, three organizations representing 300 universities — The Association of American Universities, the Association of Public and Land-grant Universities, and The Science Coalition — did a survey. It showed that mandatory cuts had reduced the number of new federal research grants and delayed research at 70 percent of responding institutions. The survey also reported delays in purchasing equipment, job reductions, and layoffs.

In that contracting research environment, how can we attract talented young minds to do research? If we don't set our priorities correctly, many bright students might decide not to go into scientific research to begin with. That recognition has even filtered down into the comic pages. In a Doonesbury cartoon, a character with an engineering doctorate is working as a waitress, because her post-doc grant got put on hold. She's trying to hire a nanny, who turns out to have a microbiology doctorate and is in the same sad situation.

This budget deal gives us hope, and we believe it will also send a vital signal to young researchers: that they need not turn away from science, like the fictional character in Doonesbury and many all-too-real researchers. Instead, we hope they'll stay with their scientific roots and pursue the breakthrough discoveries that our nation needs, if we are to remain globally competitive.

Without this deal, we'd face years of additional sequestration cuts. That would have a profoundly negative economic impact. Since World War II, half the nation's economic growth has flowed from scientific innovation — from the Internet to the now ubiquitous GPS devices.





So we can't afford to let researchers flee and research slow down.

This is America's new Sputnik moment, and our elected leaders must continue the research restoration that this compromise has begun.

*Nancy L. Zimpher is chancellor of the State University of New York. Samuel L. Stanley Jr. is president of Stony Brook University.*

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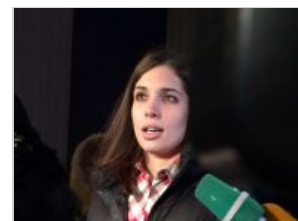
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