



CONSORTIUM *of* SOCIAL SCIENCE ASSOCIATIONS

Analysis of the *CHIPS and Science Act of 2022* | August 19, 2022

As [previously reported](#), Congress passed sweeping innovation legislation in late July that promises to make major new investments in the U.S. scientific enterprise and bolster American leadership in cutting-edge research and technology.

The [Chips and Science Act of 2022](#) was signed into law by President Biden on August 9 in a ceremony on the South Lawn of the White House that included Members of Congress, heads of federal science agencies, technology industry CEOs, and representatives of the scientific community. COSSA Executive Director Wendy Naus had the honor of attending the signing on behalf of the social and behavioral science community.

As its name suggests, the new law is heavily focused on providing incentives to American companies to enhance domestic research, development, and production of semiconductors to allow the U.S. to regain its leadership in this critical technology area. In total, the law will infuse \$52.7 billion into American semiconductor research, development, manufacturing, and workforce development. This includes a dedicated \$13.2 billion in R&D and workforce development to help create the high-tech American workforce of the future.

In addition, though, the *Chips and Science Act* contains other provisions aimed at strengthening the broader U.S. research and science enterprise, including the social and behavioral sciences. Provisions related to strengthening federal science agencies (including the National Science Foundation, among other agencies), broadening participation in science, supporting early career researchers, tightening research security, and combatting sexual harassment in science seek to address longstanding issues confronting the scientific community and provide for new, innovative ways to bolster American innovation and STEM workforce development.

Crossing the Finish Line

The *CHIPS and Science Act* ([P.L. 117-167](#)) is the culmination of more than two years of effort by policy makers and science advocates and stakeholders to reinvigorate the U.S. scientific enterprise in response to growing competition from abroad.

As COSSA has been reporting, the bill has taken several forms over the last few years, from Senate Majority Leader Chuck Schumer's (D-NY) original proposal in 2020 with Sen. Todd Young (R-IN) known as the [Endless Frontier Act](#), to the [NSF for the Future Act](#) authored by leaders of the Science, Space and Technology Committee in the House, to the [U.S. Innovation and Competition Act](#) that passed the Senate in June 2021, and finally the [America COMPETES Act of 2022](#) that made it through the House in February 2022. Since earlier this spring, a 107-member conference committee representing the relevant committees of oversight in the House and Senate has been working to negotiate a final package. As you

can read through COSSA's previous analyses, the bill has gone through quite the evolution over these last few years.

Despite Congress's work on these various bills, further progress seemed to slow in 2022 amid competing pressure for lawmakers to pivot to other priorities (e.g. war in Ukraine and the ongoing pandemic response). However, major disruptions to the global microelectronics supply chain resulting from the pandemic reinvigorated Congressional interest in innovation legislation and served as an impetus for getting the final package over the finish line. Lawmakers on both sides of the aisle saw the need for immediate action and recommitted to finding a compromise on a final package. Despite early interest in innovation and global competitiveness legislation in both chambers, in the end it was the "chips" provisions that brought Congressional leaders to the table and allowed a final deal to be struck.

Non-CHIPS Science Provisions

Regardless of how we got here, lawmakers' interest in the semiconductor provisions provided an opening to incorporate some of the other research and innovation provisions from earlier bills into a broader package. As noted earlier, the resulting bill signed into law by the President contains provisions that seek to enhance research activities at federal science agencies (NSF, Department Energy, National Institute of Standards and Technology, and NASA), diversify the scientific workforce, and tackle longstanding issues such as sexual harassment in science and research security.

COSSA produced a [section-by-section analysis](#) of the research and innovation sections of the CHIPS and Science Act. Check out the document for a full analysis of the provisions important to the research community.

A few provisions of note:

- The NSF for the Future title authorizes a **more than doubling of the NSF budget over the next 5 years**. While these are funding targets and not appropriations, the CHIPS bill marks a significant departure from past NSF authorization bills that set much lower funding targets.
- The bill **codifies NSF's new Technology, Innovation, and Partnerships Directorate** that was [launched](#) earlier this year. This is significant as earlier versions of the CHIPS bill included significantly different proposals for establishing a new technology-focused directorate at NSF.
- The bill authorizes **new investments in broadening participation in science**, emphasizing initiatives to increase the geographic distribution of grant recipients, partnering with "emerging research institutions," better outreach to minority serving institutions about research opportunities, providing supports to underrepresented groups in undergraduate STEM education and entering STEM careers, calling for a uniform policy providing flexibility for caregivers, and better/standardized data collection on the demographics of federal grant applicants and recipients.
- The bill contains provisions aimed at **better securing the U.S. research enterprise**, including creation of an Office of Research Security and Policy at NSF, training programs on responsible conduct of research, more disclosure of gifts or research grants from foreign sources, and a

prohibition on funds given to institutions with contracts to Confucius Institutes or researchers recruited into malign foreign talent programs.

- The bill calls on NSF to contract with the National Academies of Sciences, Engineering and Medicine to study how “**broader impacts**” criterion is being applied in the merit review process across the agency.
- The bill authorizes NSF to work with the Chief Statistician of the U.S. to establish a demonstration project to inform the creation of a **National Secure Data Service**.
- The bill directs NSF to award research grants to study factors contributing to and consequences of **sexual and gender harassment in the STEM workforce**. It further directs the White House Office of Science and Technology Policy to establish an interagency working group to coordinate federal efforts to reduce harassment involving grant personnel.

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