

**S. 2904, Identifying Outputs of Generative Adversarial Networks Act**

As ordered reported by the Senate Committee on Commerce, Science, and Transportation on May 20, 2020

By Fiscal Year, Millions of Dollars	2020	2020-2025	2020-2030
Direct Spending (Outlays)	0	0	0
Revenues	0	0	0
Increase or Decrease (-) in the Deficit	0	0	0
Spending Subject to Appropriation (Outlays)	*	6	not estimated
Statutory pay-as-you-go procedures apply?	No	<b>Mandate Effects</b>	
Increases on-budget deficits in any of the four consecutive 10-year periods beginning in 2031?	No	Contains intergovernmental mandate?	No
		Contains private-sector mandate?	No
* = between zero and \$500,000.			

S. 2904 would require the National Science Foundation (NSF) to support research on manipulated digital content and information authenticity. The bill also would direct the National Institute of Standards and Technology (NIST) to create measurements and standards for the development of technological tools that examine generative adversarial networks (GANs), which are used to produce manipulated content.

For this estimate, CBO assumes that the legislation will be enacted in late 2020. Under that assumption, the affected agencies could incur some costs in 2020, but CBO expects that most of the costs would be incurred in 2021 and later.

Using information from the NSF, CBO estimates that implementing the bill would have no significant cost for the NSF because the agency is already carrying out the required activities through its existing grant programs. Using information from NIST, CBO estimates that the agency would require 10 additional employees at an average annual cost of \$175,000 each through 2023 to establish a research program on GANs and similar technologies. S. 2904 also would direct NIST and the NSF to report to the Congress on related policy recommendations. Based on the costs of similar tasks, CBO estimates that developing the report would cost less than \$500,000. In total, CBO estimates that implementing S. 2904 would cost \$6 million over the 2020-2025 period; such spending would be subject to the availability of appropriated funds.



On October 29, 2019, CBO transmitted a [cost estimate for H.R. 4355](#), the Identifying Outputs of Generative Adversarial Networks Act, as ordered reported by the House Committee on Science, Space, and Technology on September 25, 2019. The two pieces of legislation are similar; the differences in CBO's estimated costs in 2020 reflect different assumed dates of enactment.

The CBO staff contacts for this estimate are Janani Shankaran and David Hughes. The estimate was reviewed by H. Samuel Papenfuss, Deputy Director of Budget Analysis.