

Federal Budget Authority for R&D

The National Center for Science and Engineering Statistics (NCSES), a principal federal statistical agency, examines the federal budget authority for research and development (R&D) in a series called Federal R&D Funding, by Budget Function (Budget Function). In this series, agency R&D data are classified into broad functional categories such as defense, health, space, and energy. Budget Function data are based on information provided to the Office of Management and Budget by 25 agencies, which accounts for about 99% of all federally sponsored R&D activities.

The government prioritizes and allocates R&D resources by functional category

The federal budget is an itemized plan for U.S. public expenditures. It must be approved by Congress and signed by the president to authorize and appropriate the money that finances all federal activity. As part of the annual budget process, the federal government designates funds for R&D to help foster knowledge and innovation within the nation. This funding is classified into 20 functional categories. This funding encourages both technological progress and economic growth across the United States.

What is a functional category?

The president's budget and the congressional budget resolution classify federal budgetary activities into functional categories that represent major purposes or national needs being addressed (see budget function categories below). Functional categories provide a broad statement of budget priorities and facilitate an understanding of trends in related programs, regardless of the agency administering them or the type of financial transaction involved.

Source: Congressional Research Service. 2023. *Introduction to the Federal Budget Process*. Available at <https://crsreports.congress.gov/product/pdf/R/R46240>.



Budget function categories

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|--|--|---|---|
|  Administration of justice |  Education, training, employment, and social services |  Income security |  Net interest |
|  Agriculture |  Energy |  International affairs |  Social security |
|  Allowances |  General government |  Medicare |  Transportation |
|  Commerce and housing credit |  General science, space, and technology |  National defense |  Undistributed offsetting receipts |
|  Community and regional development |  Health |  Natural resources and environment |  Veterans benefits and services |

What is federal spending?

Budget authority

The amount of money determined by Congress that a federal agency may commit to spending. It allows an agency to enter into obligations that will result in outlays.

Obligations

A legally binding commitment for goods and services. This money is set aside (by federal agencies) to be paid out in the future, usually in the form of grants and contracts.

Outlays

The actual disbursement of cash, checks, and electronic transfers to execute previous obligations.

The federal R&D funding data presented in NCSES's Budget Function are provided in terms of budget authority, which establishes a maximum on obligations and outlays.



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Measuring America's Progress in Science, Technology, and Innovation



Why is reporting data by budget function important?

NCSES's Budget Function data contain the most recent data available on federal R&D priorities. Each release in the Budget Function series contains data from three fiscal years:

- The oldest year details actual budget authority received by federal agencies during the prior fiscal year.
- The middle year represents the preliminary budget authority reported by federal agencies for the current fiscal year but could be subject to change depending on Congress's progress through the appropriations cycle that year.
- The most recent year contains data from the president's budget proposal for the upcoming fiscal year, primarily reflecting the administration's priorities without the input of Congress.

Although other NCSES products provide information on federal agency funding (e.g., Survey of Federal Funds for Research and Development), funding data are available only after the appropriations and obligations processes have been finalized. Budget Function provides the most recent data available on federal R&D funding.

Budget Function is unique because its reporting is centered on functional categories and timeliness. Although knowing how federal agencies allocate funds for R&D is important, data showing how funds are allocated based on general topics and function—the way Congress examines it—is useful because it illustrates spending for a given topic, regardless of the federal agency that oversees the individual federal program.

Additionally, having the data available in this way allows for these data sets to align with how data are interpreted and reported by international organizations, such as the Organisation for Economic Co-operation and Development.



Questions Budget Function can answer

- How does federal budget authority differ between defense and nondefense functions?
- How much money did the federal government allocate to R&D related to agriculture, health, or energy in a certain year?
- Which functional category was granted the largest share of budget authority?
- How much money did the federal government allocate to R&D overall in a certain year?
- Has there been an increase or decrease in the federal budget authority over time?
- What are recent trends in overall budget authority for certain budget functions?
- Are there budget functions that do not report any R&D?
- Does Congress' funding levels for R&D in the federal government's budgets differ in comparison to the proposed budgets from the administration?

Data details

Where can I find Budget Function data?

The Budget Function series is currently comprised of two main components—analytical reports and data tables—found on the NCSES website at the **Federal R&D Funding, by Budget Function homepage** (<https://ncses.nsf.gov/data-collections/federal-budget-function>). This page displays highlights from the series, as well as links to its data tables, historical data, and further analysis in the form of InfoCharts and InfoBriefs. NCSES's Budget Function publications are released annually, usually in January.



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For more information about NCSES's products and data collection process, visit <https://ncses.nsf.gov>, or explore our government funding page at <https://ncses.nsf.gov/interest-areas/government-science-engineering-funding> to learn more about federal and state government funding for science and engineering.