

Table 2**Annual change in U.S. R&D expenditures and gross domestic product, by performing sector: 1990–2021**

(Percent)

| Expenditures and gross domestic product | Longer term trends | | | Most recent years | | | | | | | | | | |
|---|--------------------|---------|---------|-------------------|---------|---------|---------|---------|---------|---------|---------|---------|----------------------|----------------------|
| | 1990–2000 | 2000–10 | 2010–20 | 2010–11 | 2011–12 | 2012–13 | 2013–14 | 2014–15 | 2015–16 | 2016–17 | 2017–18 | 2018–19 | 2019–20 ^a | 2020–21 ^b |
| Current \$ | | | | | | | | | | | | | | |
| Total R&D, all performers | 5.8 | 4.3 | 5.8 | 4.8 | 1.8 | 4.7 | 4.8 | 3.9 | 5.5 | 6.1 | 9.1 | 10.2 | 7.6 | 10.4 |
| Business | 6.4 | 3.4 | 6.9 | 5.4 | 2.8 | 6.7 | 5.6 | 4.4 | 6.7 | 6.9 | 9.8 | 11.8 | 9.0 | 12.7 |
| Federal government | 1.9 | 5.9 | 2.4 | 5.4 | -2.6 | -2.0 | 3.1 | 0.3 | -3.1 | 2.7 | 11.0 | 7.6 | 2.3 | 1.5 |
| Federal intramural | 2.1 | 5.2 | 2.4 | 9.3 | -2.7 | -1.8 | 4.1 | -1.7 | -7.1 | 1.5 | 14.2 | 8.4 | 1.3 | -0.8 |
| FFRDCs | 1.7 | 7.3 | 2.4 | -1.4 | -2.4 | -2.5 | 1.3 | 4.2 | 4.2 | 4.6 | 6.1 | 6.3 | 4.1 | 5.5 |
| Nonfederal government ^c | NA | NA | -0.1 | 0.4 | -4.2 | -6.8 | -5.9 | 2.0 | 4.3 | 1.9 | 1.7 | 4.9 | 1.2 | -1.3 |
| Higher education | 5.9 | 6.9 | 3.4 | 3.4 | 1.3 | 1.1 | 1.3 | 3.7 | 4.9 | 4.9 | 5.3 | 4.4 | 3.4 | 3.9 |
| Nonprofit organizations ^d | 8.8 | 6.6 | 4.5 | -1.3 | -0.3 | 4.1 | 6.1 | 5.0 | 9.6 | 4.9 | 5.3 | 5.7 | 6.1 | 5.5 |
| Gross domestic product | 5.6 | 3.9 | 3.4 | 3.7 | 4.2 | 3.6 | 4.2 | 3.7 | 2.7 | 4.2 | 5.4 | 4.1 | -1.5 | 10.7 |
| Constant 2012 \$ | | | | | | | | | | | | | | |
| Total R&D, all performers | 3.7 | 2.1 | 4.1 | 2.7 | -0.1 | 2.9 | 2.9 | 2.9 | 4.5 | 4.2 | 6.6 | 8.3 | 6.2 | 5.7 |
| Business | 4.3 | 1.2 | 5.1 | 3.3 | 0.9 | 4.9 | 3.7 | 3.4 | 5.6 | 4.9 | 7.2 | 9.8 | 7.6 | 7.9 |
| Federal government | -0.1 | 3.8 | 0.7 | 3.2 | -4.4 | -3.7 | 1.2 | -0.7 | -4.1 | 0.8 | 8.4 | 5.7 | 1.0 | -2.9 |
| Federal intramural | 0.0 | 3.0 | 0.7 | 7.1 | -4.5 | -3.5 | 2.2 | -2.7 | -8.0 | -0.4 | 11.5 | 6.5 | -0.0 | -5.1 |
| FFRDCs | -0.4 | 5.1 | 0.7 | -3.4 | -4.2 | -4.1 | -0.6 | 3.1 | 3.1 | 2.7 | 3.6 | 4.5 | 2.7 | 0.9 |
| Nonfederal government ^c | NA | NA | -1.8 | -1.7 | -5.9 | -8.4 | -7.6 | 0.9 | 3.3 | 0.0 | -0.7 | 3.1 | -0.1 | -5.6 |
| Higher education | 3.7 | 4.6 | 1.6 | 1.3 | -0.5 | -0.7 | -0.6 | 2.6 | 3.8 | 2.9 | 2.8 | 2.5 | 2.1 | -0.5 |
| Nonprofit organizations ^d | 6.6 | 4.4 | 2.7 | -3.3 | -2.1 | 2.3 | 4.2 | 4.0 | 8.5 | 2.9 | 2.8 | 3.8 | 4.8 | 1.0 |
| Gross domestic product | 3.4 | 1.8 | 1.7 | 1.5 | 2.3 | 1.8 | 2.3 | 2.7 | 1.7 | 2.2 | 2.9 | 2.3 | -2.8 | 5.9 |

NA = not available.

FFRDCs = federally funded research and development centers.

^a Some data for 2020 are preliminary and may be revised later.^b The R&D data for 2021 include estimates and are likely to be revised later.^c Survey data on state internal R&D performance were not available prior to 2006; data for 2008 were not collected.^d Some components of the R&D performed by nonprofit organizations are estimated and may later be revised.**Note(s):**

The longer term trend rates are calculated as compound annual growth rates.

Source(s):

National Center for Science and Engineering Statistics, National Patterns of R&D Resources (annual series).