

TABLE 9

## U.S. development expenditures, by source of funds and performing sector: 1953–2021

(Millions of current and of constant 2012 dollars)

| Year               | All funding sources | Federal |                    |       |                       |          |                  |     | Nonfederal government |       |                       |          |                  | Business |       |          |                  |     | Higher education | NPOs  |       |          |                  |     |
|--------------------|---------------------|---------|--------------------|-------|-----------------------|----------|------------------|-----|-----------------------|-------|-----------------------|----------|------------------|----------|-------|----------|------------------|-----|------------------|-------|-------|----------|------------------|-----|
|                    | All performers      | Total   | Federal intramural | FFRDC | Nonfederal government | Business | Higher education | NPO | Total                 | FFRDC | Nonfederal government | Business | Higher education | Total    | FFRDC | Business | Higher education | NPO | Higher education | Total | FFRDC | Business | Higher education | NPO |
| Current \$millions |                     |         |                    |       |                       |          |                  |     |                       |       |                       |          |                  |          |       |          |                  |     |                  |       |       |          |                  |     |
| 1953               | 3,412               | 1,762   | 567                | 48    | NA                    | 1,123    | 9                | 17  | 3                     | NA    | NA                    | NA       | 3                | 1,637    | NA    | 1,630    | 1                | 6   | 3                | 7     | NA    | NA       | 1                | 6   |
| 1954               | 3,734               | 2,027   | 537                | 62    | NA                    | 1,405    | 9                | 15  | 3                     | NA    | NA                    | NA       | 3                | 1,693    | NA    | 1,685    | 1                | 7   | 3                | 8     | NA    | NA       | 1                | 7   |
| 1955               | 4,113               | 2,351   | 543                | 171   | NA                    | 1,614    | 12               | 12  | 4                     | NA    | NA                    | NA       | 4                | 1,748    | NA    | 1,738    | 2                | 8   | 3                | 8     | NA    | NA       | 1                | 7   |
| 1956               | 5,854               | 3,561   | 631                | 348   | NA                    | 2,559    | 14               | 11  | 4                     | NA    | NA                    | NA       | 4                | 2,277    | NA    | 2,267    | 2                | 8   | 4                | 9     | NA    | NA       | 2                | 7   |
| 1957               | 6,681               | 4,477   | 728                | 429   | NA                    | 3,300    | 12               | 9   | 5                     | NA    | NA                    | NA       | 5                | 2,185    | NA    | 2,174    | 3                | 8   | 4                | 10    | NA    | NA       | 2                | 8   |
| 1958               | 7,213               | 4,940   | 842                | 386   | NA                    | 3,691    | 13               | 9   | 6                     | NA    | NA                    | NA       | 6                | 2,252    | NA    | 2,241    | 3                | 8   | 4                | 11    | NA    | NA       | 2                | 9   |
| 1959               | 8,463               | 5,871   | 940                | 477   | NA                    | 4,426    | 16               | 14  | 6                     | NA    | NA                    | NA       | 6                | 2,569    | NA    | 2,557    | 3                | 9   | 5                | 12    | NA    | NA       | 2                | 10  |
| 1960               | 9,360               | 6,390   | 1,003              | 559   | NA                    | 4,799    | 19               | 10  | 6                     | NA    | NA                    | NA       | 6                | 2,948    | NA    | 2,935    | 3                | 10  | 5                | 12    | NA    | NA       | 2                | 10  |
| 1961               | 9,930               | 6,701   | 1,090              | 670   | NA                    | 4,917    | 22               | 4   | 7                     | NA    | NA                    | NA       | 7                | 3,201    | NA    | 3,189    | 2                | 10  | 5                | 16    | NA    | NA       | 2                | 14  |
| 1962               | 10,114              | 6,822   | 1,227              | 618   | NA                    | 4,950    | 23               | 5   | 8                     | NA    | NA                    | NA       | 8                | 3,259    | NA    | 3,246    | 2                | 11  | 6                | 20    | NA    | NA       | 2                | 18  |
| 1963               | 11,539              | 7,955   | 1,465              | 668   | NA                    | 5,795    | 22               | 6   | 8                     | NA    | NA                    | NA       | 8                | 3,548    | NA    | 3,535    | 2                | 11  | 6                | 22    | NA    | NA       | 2                | 20  |
| 1964               | 12,506              | 8,610   | 1,680              | 739   | NA                    | 6,156    | 30               | 6   | 8                     | NA    | NA                    | NA       | 8                | 3,861    | NA    | 3,848    | 2                | 11  | 7                | 21    | NA    | NA       | 3                | 18  |
| 1965               | 13,215              | 8,742   | 1,789              | 674   | NA                    | 6,218    | 48               | 13  | 9                     | NA    | NA                    | NA       | 9                | 4,433    | NA    | 4,419    | 2                | 12  | 8                | 24    | NA    | NA       | 4                | 20  |
| 1966               | 14,490              | 9,466   | 1,886              | 654   | NA                    | 6,849    | 61               | 16  | 9                     | NA    | NA                    | NA       | 9                | 4,977    | NA    | 4,961    | 2                | 14  | 10               | 28    | NA    | NA       | 5                | 23  |
| 1967               | 15,332              | 9,521   | 1,943              | 706   | NA                    | 6,795    | 66               | 12  | 9                     | NA    | NA                    | NA       | 9                | 5,762    | NA    | 5,744    | 3                | 15  | 10               | 31    | NA    | NA       | 7                | 24  |
| 1968               | 16,154              | 9,756   | 1,904              | 724   | NA                    | 7,044    | 72               | 13  | 8                     | NA    | NA                    | NA       | 8                | 6,346    | NA    | 6,326    | 4                | 16  | 9                | 35    | NA    | NA       | 9                | 26  |
| 1969               | 17,051              | 9,848   | 2,016              | 792   | NA                    | 6,944    | 80               | 17  | 7                     | NA    | NA                    | NA       | 7                | 7,150    | NA    | 7,127    | 5                | 18  | 8                | 38    | NA    | NA       | 10               | 28  |
| 1970               | 16,925              | 9,382   | 2,258              | 790   | NA                    | 6,232    | 84               | 20  | 6                     | NA    | NA                    | NA       | 6                | 7,489    | NA    | 7,466    | 5                | 18  | 7                | 40    | NA    | NA       | 10               | 30  |
| 1971               | 17,399              | 9,561   | 2,473              | 841   | NA                    | 6,167    | 69               | 12  | 8                     | NA    | NA                    | NA       | 8                | 7,780    | NA    | 7,757    | 4                | 19  | 9                | 42    | NA    | NA       | 9                | 33  |
| 1972               | 18,743              | 10,141  | 2,639              | 863   | NA                    | 6,533    | 63               | 44  | 12                    | NA    | NA                    | NA       | 12               | 8,533    | NA    | 8,510    | 4                | 19  | 14               | 44    | NA    | NA       | 9                | 35  |
| 1973               | 20,197              | 10,311  | 2,657              | 860   | NA                    | 6,621    | 71               | 102 | 18                    | NA    | NA                    | NA       | 18               | 9,798    | NA    | 9,773    | 5                | 20  | 20               | 51    | NA    | NA       | 13               | 38  |
| 1974               | 21,504              | 10,506  | 2,765              | 983   | NA                    | 6,553    | 75               | 131 | 20                    | NA    | NA                    | NA       | 20               | 10,896   | NA    | 10,868   | 7                | 22  | 25               | 57    | NA    | NA       | 15               | 42  |
| 1975               | 22,706              | 10,993  | 2,890              | 1,103 | NA                    | 6,783    | 83               | 135 | 22                    | NA    | NA                    | NA       | 22               | 11,600   | NA    | 11,569   | 8                | 23  | 27               | 63    | NA    | NA       | 16               | 47  |
| 1976               | 25,085              | 12,035  | 2,972              | 1,315 | NA                    | 7,522    | 100              | 128 | 24                    | NA    | NA                    | NA       | 24               | 12,927   | NA    | 12,890   | 12               | 25  | 31               | 68    | NA    | NA       | 16               | 52  |
| 1977               | 27,667              | 13,153  | 3,188              | 1,418 | NA                    | 8,275    | 153              | 119 | 28                    | NA    | NA                    | NA       | 28               | 14,370   | NA    | 14,328   | 15               | 27  | 40               | 76    | NA    | NA       | 19               | 58  |
| 1978               | 31,056              | 14,383  | 3,676              | 1,584 | NA                    | 8,756    | 254              | 113 | 32                    | NA    | NA                    | NA       | 32               | 16,504   | NA    | 16,460   | 15               | 30  | 49               | 88    | NA    | NA       | 24               | 64  |
| 1979               | 35,445              | 16,064  | 3,944              | 1,753 | NA                    | 9,888    | 336              | 143 | 34                    | NA    | NA                    | NA       | 34               | 19,193   | NA    | 19,145   | 16               | 32  | 56               | 99    | NA    | NA       | 28               | 71  |
| 1980               | 40,748              | 17,587  | 4,072              | 2,009 | NA                    | 10,957   | 362              | 187 | 38                    | NA    | NA                    | NA       | 38               | 22,945   | NA    | 22,891   | 19               | 35  | 68               | 110   | NA    | NA       | 31               | 79  |
| 1981               | 46,305              | 20,242  | 4,530              | 2,175 | NA                    | 12,791   | 386              | 360 | 44                    | NA    | NA                    | NA       | 44               | 25,817   | NA    | 25,756   | 24               | 37  | 80               | 123   | NA    | NA       | 35               | 88  |
| 1982               | 51,879              | 22,323  | 5,178              | 2,170 | NA                    | 14,215   | 397              | 362 | 46                    | NA    | NA                    | NA       | 46               | 29,286   | NA    | 29,219   | 27               | 40  | 88               | 137   | NA    | NA       | 39               | 98  |
| 1983               | 57,771              | 24,859  | 6,106              | 2,385 | NA                    | 15,522   | 399              | 447 | 47                    | NA    | NA                    | NA       | 47               | 32,617   | NA    | 32,542   | 31               | 44  | 97               | 151   | NA    | NA       | 43               | 109 |
| 1984               | 66,461              | 28,320  | 7,078              | 2,572 | NA                    | 17,640   | 435              | 594 | 51                    | NA    | NA                    | NA       | 51               | 37,815   | NA    | 37,731   | 37               | 47  | 108              | 167   | NA    | NA       | 47               | 120 |
| 1985               | 74,522              | 32,304  | 8,011              | 2,906 | NA                    | 20,258   | 486              | 644 | 57                    | NA    | NA                    | NA       | 57               | 41,857   | NA    | 41,762   | 43               | 51  | 120              | 183   | NA    | NA       | 49               | 134 |

TABLE 9

## U.S. development expenditures, by source of funds and performing sector: 1953–2021

(Millions of current and of constant 2012 dollars)

| Year | All funding sources | Federal |                    |       |                       |          |                  |       | Nonfederal government |       |                       |          |                  | Business |       |          |                  |     | Higher education | NPOs  |       |          |                  |       |
|------|---------------------|---------|--------------------|-------|-----------------------|----------|------------------|-------|-----------------------|-------|-----------------------|----------|------------------|----------|-------|----------|------------------|-----|------------------|-------|-------|----------|------------------|-------|
|      | All performers      | Total   | Federal intramural | FFRDC | Nonfederal government | Business | Higher education | NPO   | Total                 | FFRDC | Nonfederal government | Business | Higher education | Total    | FFRDC | Business | Higher education | NPO | Higher education | Total | FFRDC | Business | Higher education | NPO   |
| 1986 | 75,855              | 33,993  | 8,275              | 3,101 | NA                    | 21,517   | 513              | 587   | 65                    | NA    | NA                    | NA       | 65               | 41,460   | NA    | 41,354   | 50               | 55  | 136              | 201   | NA    | NA       | 53               | 149   |
| 1987 | 79,929              | 36,691  | 8,176              | 3,321 | NA                    | 24,122   | 599              | 474   | 73                    | NA    | NA                    | NA       | 73               | 42,784   | NA    | 42,667   | 57               | 60  | 155              | 226   | NA    | NA       | 61               | 165   |
| 1988 | 84,567              | 37,285  | 8,864              | 3,596 | NA                    | 23,719   | 698              | 407   | 83                    | NA    | NA                    | NA       | 83               | 46,765   | NA    | 46,634   | 66               | 65  | 180              | 254   | NA    | NA       | 71               | 183   |
| 1989 | 87,723              | 35,320  | 9,355              | 3,635 | NA                    | 21,049   | 773              | 507   | 91                    | NA    | NA                    | NA       | 91               | 51,822   | NA    | 51,676   | 76               | 70  | 205              | 285   | NA    | NA       | 81               | 203   |
| 1990 | 94,067              | 33,859  | 9,700              | 3,663 | NA                    | 18,966   | 910              | 619   | 99                    | NA    | NA                    | NA       | 99               | 59,568   | NA    | 59,410   | 83               | 75  | 226              | 315   | NA    | NA       | 89               | 226   |
| 1991 | 95,105              | 31,220  | 8,778              | 3,452 | NA                    | 17,256   | 1,012            | 722   | 103                   | NA    | NA                    | NA       | 103              | 63,197   | NA    | 63,030   | 86               | 82  | 239              | 345   | NA    | NA       | 94               | 251   |
| 1992 | 99,811              | 31,514  | 9,098              | 3,423 | NA                    | 17,181   | 1,055            | 758   | 105                   | NA    | NA                    | NA       | 105              | 67,567   | NA    | 67,388   | 91               | 88  | 246              | 378   | NA    | NA       | 100              | 279   |
| 1993 | 99,705              | 30,055  | 9,071              | 2,986 | NA                    | 16,083   | 1,127            | 787   | 109                   | NA    | NA                    | NA       | 109              | 68,866   | NA    | 68,674   | 97               | 95  | 259              | 416   | NA    | NA       | 107              | 309   |
| 1994 | 102,938             | 30,208  | 8,823              | 3,147 | NA                    | 16,209   | 1,213            | 815   | 114                   | NA    | NA                    | NA       | 114              | 71,886   | NA    | 71,681   | 102              | 103 | 276              | 455   | NA    | NA       | 112              | 343   |
| 1995 | 113,079             | 32,436  | 9,262              | 3,427 | NA                    | 17,824   | 1,180            | 744   | 123                   | NA    | NA                    | NA       | 123              | 79,738   | NA    | 79,518   | 108              | 111 | 288              | 495   | NA    | NA       | 113              | 381   |
| 1996 | 121,377             | 31,373  | 9,033              | 3,448 | NA                    | 17,066   | 1,128            | 698   | 128                   | NA    | NA                    | NA       | 128              | 89,032   | NA    | 88,797   | 115              | 120 | 305              | 538   | NA    | NA       | 115              | 423   |
| 1997 | 128,661             | 32,256  | 9,077              | 3,331 | NA                    | 18,121   | 1,041            | 687   | 120                   | NA    | NA                    | NA       | 120              | 95,331   | NA    | 95,063   | 113              | 155 | 306              | 648   | NA    | NA       | 112              | 536   |
| 1998 | 144,669             | 32,684  | 9,214              | 3,314 | NA                    | 18,452   | 943              | 760   | 113                   | NA    | NA                    | NA       | 113              | 110,865  | NA    | 110,589  | 112              | 164 | 306              | 702   | NA    | NA       | 110              | 592   |
| 1999 | 154,315             | 30,584  | 9,265              | 3,335 | NA                    | 16,571   | 686              | 727   | 117                   | NA    | NA                    | NA       | 117              | 122,530  | NA    | 122,236  | 116              | 178 | 325              | 759   | NA    | NA       | 118              | 641   |
| 2000 | 169,414             | 27,493  | 9,377              | 3,482 | NA                    | 13,510   | 545              | 580   | 123                   | NA    | NA                    | NA       | 123              | 140,549  | NA    | 140,235  | 119              | 195 | 352              | 897   | NA    | NA       | 127              | 771   |
| 2001 | 167,975             | 28,690  | 11,062             | 3,566 | NA                    | 12,542   | 646              | 874   | 132                   | 4     | NA                    | NA       | 128              | 137,749  | 24    | 137,410  | 117              | 197 | 381              | 1,024 | 37    | NA       | 136              | 850   |
| 2002 | 176,971             | 30,199  | 11,800             | 3,763 | NA                    | 13,061   | 639              | 937   | 143                   | 3     | NA                    | NA       | 140              | 145,048  | 14    | 144,727  | 116              | 191 | 425              | 1,155 | 28    | NA       | 151              | 976   |
| 2003 | 175,559             | 30,190  | 12,646             | 3,964 | NA                    | 11,939   | 897              | 743   | 158                   | 2     | NA                    | NA       | 155              | 143,443  | 9     | 143,121  | 118              | 195 | 467              | 1,301 | 17    | NA       | 162              | 1,122 |
| 2004 | 177,030             | 34,131  | 12,746             | 4,454 | NA                    | 14,419   | 1,211            | 1,300 | 164                   | 3     | NA                    | NA       | 161              | 140,947  | 13    | 140,615  | 120              | 199 | 481              | 1,307 | 17    | NA       | 167              | 1,123 |
| 2005 | 195,621             | 36,475  | 13,994             | 4,611 | NA                    | 15,512   | 1,146            | 1,211 | 163                   | 5     | NA                    | NA       | 158              | 157,053  | 23    | 156,696  | 122              | 212 | 501              | 1,428 | 30    | NA       | 170              | 1,228 |
| 2006 | 212,857             | 38,888  | 16,089             | 4,547 | 2                     | 16,720   | 927              | 603   | 167                   | 6     | 5                     | NA       | 156              | 171,780  | 36    | 171,392  | 126              | 226 | 520              | 1,502 | 41    | NA       | 173              | 1,287 |
| 2007 | 227,740             | 39,378  | 18,016             | 5,037 | 3                     | 14,860   | 894              | 568   | 177                   | 8     | 6                     | NA       | 163              | 185,985  | 42    | 185,569  | 133              | 240 | 540              | 1,660 | 51    | NA       | 186              | 1,423 |
| 2008 | 259,579             | 54,540  | 17,566             | 6,078 | 4                     | 29,488   | 841              | 562   | 417                   | 7     | 7                     | 223      | 179              | 201,848  | 45    | 201,406  | 148              | 250 | 589              | 2,186 | 47    | 330      | 209              | 1,600 |
| 2009 | 255,919             | 55,908  | 17,245             | 6,147 | 5                     | 30,435   | 1,526            | 550   | 442                   | 8     | 9                     | 144      | 282              | 196,174  | 39    | 195,614  | 280              | 241 | 887              | 2,509 | 46    | 361      | 361              | 1,740 |
| 2010 | 251,195             | 56,904  | 18,844             | 6,909 | 6                     | 28,089   | 2,419            | 638   | 530                   | 11    | 10                    | 114      | 396              | 189,538  | 40    | 188,850  | 407              | 242 | 1,178            | 3,044 | 45    | 647      | 498              | 1,854 |
| 2011 | 270,772             | 58,265  | 21,879             | 6,786 | 6                     | 26,228   | 2,575            | 790   | 637                   | 6     | 10                    | 230      | 391              | 207,737  | 41    | 207,025  | 415              | 256 | 1,274            | 2,860 | 39    | 403      | 521              | 1,897 |
| 2012 | 273,052             | 55,540  | 19,941             | 6,632 | 6                     | 25,840   | 2,603            | 518   | 488                   | 10    | 9                     | 102      | 367              | 212,699  | 43    | 211,949  | 444              | 263 | 1,454            | 2,871 | 40    | 310      | 579              | 1,941 |
| 2013 | 286,976             | 51,524  | 19,767             | 6,572 | 6                     | 22,137   | 2,568            | 474   | 531                   | 11    | 8                     | 126      | 385              | 230,023  | 49    | 229,213  | 482              | 280 | 1,597            | 3,302 | 36    | 532      | 620              | 2,115 |
| 2014 | 301,428             | 48,065  | 20,303             | 6,681 | 6                     | 18,065   | 2,540            | 471   | 500                   | 7     | 8                     | 87       | 399              | 247,491  | 57    | 246,601  | 536              | 296 | 1,733            | 3,640 | 36    | 624      | 696              | 2,284 |
| 2015 | 312,977             | 47,818  | 18,961             | 7,063 | 6                     | 18,850   | 2,517            | 422   | 504                   | 6     | 8                     | 90       | 401              | 258,753  | 61    | 257,831  | 554              | 307 | 1,857            | 4,045 | 41    | 786      | 778              | 2,439 |
| 2016 | 324,733             | 43,207  | 15,838             | 7,479 | 7                     | 16,790   | 2,573            | 520   | 660                   | 8     | 11                    | 129      | 420              | 274,937  | 64    | 273,926  | 561              | 386 | 1,962            | 3,904 | 50    | 760      | 866              | 2,228 |
| 2017 | 350,154             | 44,911  | 15,848             | 8,021 | 9                     | 17,736   | 2,665            | 632   | 652                   | 11    | 12                    | 92       | 448              | 298,820  | 64    | 297,747  | 607              | 401 | 2,096            | 3,598 | 51    | 560      | 934              | 2,053 |
| 2018 | 387,873             | 48,512  | 18,856             | 8,567 | 9                     | 17,301   | 2,783            | 996   | 686                   | 15    | 12                    | 85       | 486              | 332,749  | 65    | 331,637  | 624              | 423 | 2,195            | 3,637 | 54    | 748      | 914              | 1,921 |
| 2019 | 430,391             | 49,079  | 21,253             | 8,962 | 13                    | 15,058   | 3,058            | 735   | 728                   | 17    | 16                    | 112      | 492              | 374,795  | 60    | 373,631  | 631              | 472 | 2,213            | 3,453 | 56    | 617      | 878              | 1,903 |

TABLE 9

## U.S. development expenditures, by source of funds and performing sector: 1953–2021

(Millions of current and of constant 2012 dollars)

| Year                     | All funding sources | Federal |                    |       |                       |          |                  |       | Nonfederal government |       |                       |          |                  | Business |       |          |                  |     | Higher education | NPOs  |       |          |                  |       |
|--------------------------|---------------------|---------|--------------------|-------|-----------------------|----------|------------------|-------|-----------------------|-------|-----------------------|----------|------------------|----------|-------|----------|------------------|-----|------------------|-------|-------|----------|------------------|-------|
|                          | All performers      | Total   | Federal intramural | FFRDC | Nonfederal government | Business | Higher education | NPO   | Total                 | FFRDC | Nonfederal government | Business | Higher education | Total    | FFRDC | Business | Higher education | NPO | Higher education | Total | FFRDC | Business | Higher education | NPO   |
| 2020 <sup>a</sup>        | 471,747             | 57,597  | 21,567             | 9,379 | 19                    | 21,440   | 3,380            | 1,812 | 783                   | 15    | 22                    | 155      | 494              | 407,479  | 62    | 406,238  | 656              | 523 | 2,271            | 3,458 | 58    | 645      | 886              | 1,869 |
| 2021 <sup>b</sup>        | 529,683             | 61,470  | 23,145             | 9,897 | 22                    | 22,922   | 3,573            | 1,912 | 832                   | 16    | 25                    | 169      | 520              | 461,107  | 72    | 459,790  | 691              | 552 | 2,423            | 3,685 | 63    | 710      | 939              | 1,972 |
| Constant 2012 \$millions |                     |         |                    |       |                       |          |                  |       |                       |       |                       |          |                  |          |       |          |                  |     |                  |       |       |          |                  |       |
| 1953                     | 23,628              | 12,204  | 3,924              | 329   | NA                    | 7,778    | 59               | 114   | 20                    | NA    | NA                    | NA       | 20               | 11,338   | NA    | 11,289   | 7                | 42  | 18               | 48    | NA    | NA       | 7                | 42    |
| 1954                     | 25,626              | 13,908  | 3,685              | 422   | NA                    | 9,643    | 58               | 100   | 24                    | NA    | NA                    | NA       | 24               | 11,619   | NA    | 11,564   | 7                | 48  | 21               | 55    | NA    | NA       | 7                | 48    |
| 1955                     | 27,756              | 15,863  | 3,661              | 1,151 | NA                    | 10,893   | 78               | 81    | 26                    | NA    | NA                    | NA       | 26               | 11,792   | NA    | 11,728   | 10               | 54  | 22               | 54    | NA    | NA       | 7                | 47    |
| 1956                     | 38,200              | 23,234  | 4,114              | 2,267 | NA                    | 16,696   | 88               | 69    | 29                    | NA    | NA                    | NA       | 29               | 14,858   | NA    | 14,793   | 13               | 52  | 23               | 55    | NA    | NA       | 10               | 46    |
| 1957                     | 42,204              | 28,282  | 4,595              | 2,710 | NA                    | 20,847   | 76               | 54    | 33                    | NA    | NA                    | NA       | 33               | 13,799   | NA    | 13,732   | 16               | 51  | 27               | 63    | NA    | NA       | 13               | 51    |
| 1958                     | 44,549              | 30,510  | 5,197              | 2,381 | NA                    | 22,799   | 77               | 56    | 35                    | NA    | NA                    | NA       | 35               | 13,909   | NA    | 13,841   | 19               | 49  | 27               | 68    | NA    | NA       | 12               | 56    |
| 1959                     | 51,555              | 35,768  | 5,726              | 2,903 | NA                    | 26,962   | 94               | 82    | 36                    | NA    | NA                    | NA       | 36               | 15,650   | NA    | 15,577   | 18               | 55  | 28               | 73    | NA    | NA       | 12               | 61    |
| 1960                     | 56,257              | 38,403  | 6,025              | 3,360 | NA                    | 28,844   | 114              | 60    | 38                    | NA    | NA                    | NA       | 38               | 17,715   | NA    | 17,640   | 15               | 60  | 28               | 72    | NA    | NA       | 12               | 60    |
| 1961                     | 59,056              | 39,852  | 6,479              | 3,985 | NA                    | 29,240   | 128              | 21    | 41                    | NA    | NA                    | NA       | 41               | 19,037   | NA    | 18,966   | 12               | 59  | 30               | 95    | NA    | NA       | 12               | 83    |
| 1962                     | 59,428              | 40,082  | 7,210              | 3,631 | NA                    | 29,083   | 132              | 26    | 45                    | NA    | NA                    | NA       | 45               | 19,149   | NA    | 19,073   | 12               | 65  | 34               | 118   | NA    | NA       | 12               | 106   |
| 1963                     | 67,026              | 46,209  | 8,509              | 3,880 | NA                    | 33,660   | 128              | 32    | 46                    | NA    | NA                    | NA       | 46               | 20,608   | NA    | 20,533   | 12               | 64  | 35               | 128   | NA    | NA       | 12               | 116   |
| 1964                     | 71,552              | 49,261  | 9,612              | 4,228 | NA                    | 35,221   | 169              | 31    | 45                    | NA    | NA                    | NA       | 45               | 22,090   | NA    | 22,016   | 11               | 63  | 37               | 117   | NA    | NA       | 14               | 103   |
| 1965                     | 74,252              | 49,116  | 10,049             | 3,787 | NA                    | 34,937   | 270              | 73    | 49                    | NA    | NA                    | NA       | 49               | 24,908   | NA    | 24,829   | 11               | 67  | 44               | 135   | NA    | NA       | 22               | 112   |
| 1966                     | 79,197              | 51,737  | 10,309             | 3,572 | NA                    | 37,435   | 333              | 87    | 51                    | NA    | NA                    | NA       | 51               | 27,203   | NA    | 27,116   | 11               | 77  | 53               | 153   | NA    | NA       | 27               | 126   |
| 1967                     | 81,432              | 50,570  | 10,320             | 3,747 | NA                    | 36,091   | 348              | 64    | 45                    | NA    | NA                    | NA       | 45               | 30,602   | NA    | 30,509   | 13               | 80  | 53               | 162   | NA    | NA       | 35               | 127   |
| 1968                     | 82,292              | 49,698  | 9,700              | 3,686 | NA                    | 35,885   | 364              | 64    | 39                    | NA    | NA                    | NA       | 39               | 32,329   | NA    | 32,227   | 20               | 82  | 47               | 178   | NA    | NA       | 46               | 132   |
| 1969                     | 82,809              | 47,827  | 9,790              | 3,844 | NA                    | 33,724   | 386              | 83    | 34                    | NA    | NA                    | NA       | 34               | 34,725   | NA    | 34,613   | 24               | 87  | 39               | 185   | NA    | NA       | 49               | 136   |
| 1970                     | 78,077              | 43,282  | 10,416             | 3,642 | NA                    | 28,749   | 385              | 90    | 30                    | NA    | NA                    | NA       | 30               | 34,548   | NA    | 34,442   | 23               | 83  | 32               | 185   | NA    | NA       | 46               | 138   |
| 1971                     | 76,386              | 41,974  | 10,855             | 3,690 | NA                    | 27,075   | 303              | 50    | 34                    | NA    | NA                    | NA       | 34               | 34,157   | NA    | 34,056   | 18               | 83  | 38               | 182   | NA    | NA       | 37               | 145   |
| 1972                     | 78,884              | 42,679  | 11,108             | 3,630 | NA                    | 27,495   | 263              | 183   | 52                    | NA    | NA                    | NA       | 52               | 35,910   | NA    | 35,816   | 15               | 80  | 57               | 185   | NA    | NA       | 38               | 147   |
| 1973                     | 80,583              | 41,139  | 10,602             | 3,431 | NA                    | 26,417   | 281              | 407   | 70                    | NA    | NA                    | NA       | 70               | 39,093   | NA    | 38,993   | 20               | 80  | 80               | 201   | NA    | NA       | 50               | 152   |
| 1974                     | 78,721              | 38,461  | 10,123             | 3,597 | NA                    | 23,989   | 273              | 480   | 73                    | NA    | NA                    | NA       | 73               | 39,887   | NA    | 39,784   | 24               | 79  | 90               | 209   | NA    | NA       | 55               | 155   |
| 1975                     | 76,069              | 36,829  | 9,682              | 3,695 | NA                    | 22,725   | 276              | 451   | 74                    | NA    | NA                    | NA       | 74               | 38,864   | NA    | 38,759   | 27               | 78  | 92               | 211   | NA    | NA       | 54               | 157   |
| 1976                     | 79,658              | 38,218  | 9,437              | 4,174 | NA                    | 23,886   | 316              | 405   | 76                    | NA    | NA                    | NA       | 76               | 41,049   | NA    | 40,932   | 37               | 80  | 99               | 216   | NA    | NA       | 51               | 165   |
| 1977                     | 82,719              | 39,325  | 9,531              | 4,240 | NA                    | 24,740   | 457              | 356   | 83                    | NA    | NA                    | NA       | 83               | 42,963   | NA    | 42,837   | 43               | 82  | 120              | 228   | NA    | NA       | 55               | 173   |
| 1978                     | 86,747              | 40,176  | 10,269             | 4,426 | NA                    | 24,458   | 709              | 315   | 89                    | NA    | NA                    | NA       | 89               | 46,100   | NA    | 45,977   | 41               | 83  | 137              | 245   | NA    | NA       | 66               | 179   |
| 1979                     | 91,425              | 41,434  | 10,172             | 4,521 | NA                    | 25,504   | 868              | 369   | 88                    | NA    | NA                    | NA       | 88               | 49,503   | NA    | 49,381   | 40               | 83  | 144              | 255   | NA    | NA       | 71               | 184   |
| 1980                     | 96,393              | 41,604  | 9,634              | 4,752 | NA                    | 25,920   | 856              | 442   | 90                    | NA    | NA                    | NA       | 90               | 54,278   | NA    | 54,151   | 46               | 82  | 160              | 260   | NA    | NA       | 73               | 187   |
| 1981                     | 100,071             | 43,745  | 9,791              | 4,701 | NA                    | 27,643   | 834              | 777   | 95                    | NA    | NA                    | NA       | 95               | 55,794   | NA    | 55,662   | 51               | 81  | 172              | 265   | NA    | NA       | 75               | 190   |
| 1982                     | 105,592             | 45,434  | 10,539             | 4,417 | NA                    | 28,932   | 809              | 737   | 93                    | NA    | NA                    | NA       | 93               | 59,607   | NA    | 59,471   | 54               | 82  | 180              | 278   | NA    | NA       | 79               | 199   |

TABLE 9

## U.S. development expenditures, by source of funds and performing sector: 1953–2021

(Millions of current and of constant 2012 dollars)

| Year | All funding sources | Federal |                    |       |                       |          |                  |       | Nonfederal government |       |                       |          |                  | Business |       |          |                  |     | Higher education | NPOs  |       |          |                  |       |
|------|---------------------|---------|--------------------|-------|-----------------------|----------|------------------|-------|-----------------------|-------|-----------------------|----------|------------------|----------|-------|----------|------------------|-----|------------------|-------|-------|----------|------------------|-------|
|      | All performers      | Total   | Federal intramural | FFRDC | Nonfederal government | Business | Higher education | NPO   | Total                 | FFRDC | Nonfederal government | Business | Higher education | Total    | FFRDC | Business | Higher education | NPO | Higher education | Total | FFRDC | Business | Higher education | NPO   |
| 1983 | 113,153             | 48,690  | 11,959             | 4,671 | NA                    | 30,402   | 782              | 876   | 92                    | NA    | NA                    | NA       | 92               | 63,884   | NA    | 63,738   | 61               | 86  | 191              | 296   | NA    | NA       | 83               | 213   |
| 1984 | 125,640             | 53,537  | 13,381             | 4,863 | NA                    | 33,347   | 822              | 1,124 | 97                    | NA    | NA                    | NA       | 97               | 71,487   | NA    | 71,328   | 70               | 89  | 204              | 316   | NA    | NA       | 88               | 228   |
| 1985 | 136,559             | 59,197  | 14,679             | 5,325 | NA                    | 37,122   | 891              | 1,180 | 105                   | NA    | NA                    | NA       | 105              | 76,701   | NA    | 76,528   | 80               | 94  | 220              | 335   | NA    | NA       | 90               | 245   |
| 1986 | 136,260             | 61,062  | 14,864             | 5,571 | NA                    | 38,651   | 922              | 1,054 | 117                   | NA    | NA                    | NA       | 117              | 74,474   | NA    | 74,285   | 90               | 99  | 245              | 361   | NA    | NA       | 95               | 267   |
| 1987 | 140,112             | 64,318  | 14,331             | 5,821 | NA                    | 42,285   | 1,049            | 830   | 128                   | NA    | NA                    | NA       | 128              | 74,998   | NA    | 74,794   | 100              | 105 | 272              | 395   | NA    | NA       | 106              | 289   |
| 1988 | 143,192             | 63,133  | 15,009             | 6,089 | NA                    | 40,162   | 1,182            | 690   | 140                   | NA    | NA                    | NA       | 140              | 79,184   | NA    | 78,963   | 112              | 109 | 304              | 431   | NA    | NA       | 121              | 310   |
| 1989 | 142,931             | 57,548  | 15,243             | 5,923 | NA                    | 34,296   | 1,260            | 826   | 149                   | NA    | NA                    | NA       | 149              | 84,436   | NA    | 84,198   | 124              | 114 | 334              | 464   | NA    | NA       | 132              | 332   |
| 1990 | 147,740             | 53,177  | 15,235             | 5,753 | NA                    | 29,788   | 1,429            | 972   | 156                   | NA    | NA                    | NA       | 156              | 93,556   | NA    | 93,308   | 130              | 118 | 355              | 494   | NA    | NA       | 139              | 355   |
| 1991 | 144,483             | 47,430  | 13,335             | 5,245 | NA                    | 26,215   | 1,537            | 1,097 | 156                   | NA    | NA                    | NA       | 156              | 96,010   | NA    | 95,755   | 131              | 124 | 364              | 524   | NA    | NA       | 143              | 381   |
| 1992 | 148,253             | 46,810  | 13,513             | 5,084 | NA                    | 25,520   | 1,567            | 1,126 | 156                   | NA    | NA                    | NA       | 156              | 100,360  | NA    | 100,094  | 135              | 131 | 365              | 562   | NA    | NA       | 148              | 414   |
| 1993 | 144,668             | 43,608  | 13,162             | 4,333 | NA                    | 23,336   | 1,636            | 1,141 | 158                   | NA    | NA                    | NA       | 158              | 99,922   | NA    | 99,643   | 141              | 138 | 376              | 604   | NA    | NA       | 155              | 449   |
| 1994 | 146,236             | 42,914  | 12,535             | 4,471 | NA                    | 23,027   | 1,724            | 1,158 | 161                   | NA    | NA                    | NA       | 161              | 102,123  | NA    | 101,832  | 145              | 146 | 392              | 647   | NA    | NA       | 159              | 488   |
| 1995 | 157,344             | 45,133  | 12,888             | 4,769 | NA                    | 24,801   | 1,641            | 1,035 | 171                   | NA    | NA                    | NA       | 171              | 110,951  | NA    | 110,646  | 151              | 155 | 401              | 688   | NA    | NA       | 158              | 531   |
| 1996 | 165,854             | 42,870  | 12,343             | 4,712 | NA                    | 23,320   | 1,542            | 953   | 175                   | NA    | NA                    | NA       | 175              | 121,657  | NA    | 121,336  | 157              | 164 | 417              | 735   | NA    | NA       | 157              | 579   |
| 1997 | 172,825             | 43,328  | 12,192             | 4,474 | NA                    | 24,341   | 1,399            | 922   | 162                   | NA    | NA                    | NA       | 162              | 128,053  | NA    | 127,694  | 152              | 208 | 411              | 870   | NA    | NA       | 150              | 721   |
| 1998 | 192,167             | 43,414  | 12,239             | 4,402 | NA                    | 24,510   | 1,253            | 1,010 | 150                   | NA    | NA                    | NA       | 150              | 147,264  | NA    | 146,898  | 148              | 218 | 406              | 932   | NA    | NA       | 146              | 786   |
| 1999 | 202,061             | 40,048  | 12,132             | 4,367 | NA                    | 21,698   | 899              | 952   | 153                   | NA    | NA                    | NA       | 153              | 160,442  | NA    | 160,057  | 152              | 233 | 425              | 993   | NA    | NA       | 154              | 839   |
| 2000 | 217,126             | 35,236  | 12,017             | 4,463 | NA                    | 17,315   | 698              | 743   | 157                   | NA    | NA                    | NA       | 157              | 180,132  | NA    | 179,730  | 152              | 250 | 451              | 1,150 | NA    | NA       | 162              | 988   |
| 2001 | 210,540             | 35,960  | 13,865             | 4,470 | NA                    | 15,720   | 810              | 1,095 | 166                   | 5     | NA                    | NA       | 161              | 172,655  | 30    | 172,230  | 147              | 247 | 477              | 1,283 | 47    | NA       | 171              | 1,066 |
| 2002 | 218,412             | 37,271  | 14,563             | 4,644 | NA                    | 16,120   | 789              | 1,156 | 176                   | 4     | NA                    | NA       | 172              | 179,014  | 17    | 178,618  | 144              | 236 | 525              | 1,426 | 34    | NA       | 187              | 1,205 |
| 2003 | 212,475             | 36,538  | 15,305             | 4,798 | NA                    | 14,449   | 1,086            | 900   | 191                   | 3     | NA                    | NA       | 188              | 173,606  | 11    | 173,216  | 143              | 236 | 565              | 1,575 | 21    | NA       | 196              | 1,358 |
| 2004 | 208,655             | 40,228  | 15,023             | 5,250 | NA                    | 16,995   | 1,428            | 1,533 | 194                   | 4     | NA                    | NA       | 190              | 166,125  | 15    | 165,735  | 141              | 235 | 567              | 1,540 | 20    | NA       | 196              | 1,324 |
| 2005 | 223,557             | 41,683  | 15,993             | 5,270 | NA                    | 17,727   | 1,310            | 1,384 | 187                   | 6     | NA                    | NA       | 180              | 179,482  | 27    | 179,073  | 140              | 242 | 573              | 1,632 | 34    | NA       | 194              | 1,404 |
| 2006 | 235,972             | 43,111  | 17,837             | 5,041 | 3                     | 18,536   | 1,027            | 668   | 186                   | 7     | 5                     | NA       | 173              | 190,434  | 39    | 190,004  | 139              | 251 | 576              | 1,665 | 46    | NA       | 192              | 1,427 |
| 2007 | 245,830             | 42,506  | 19,447             | 5,437 | 3                     | 16,040   | 965              | 613   | 191                   | 8     | 6                     | NA       | 176              | 200,758  | 46    | 200,309  | 144              | 260 | 583              | 1,792 | 55    | NA       | 201              | 1,536 |
| 2008 | 274,924             | 57,764  | 18,605             | 6,438 | 4                     | 31,231   | 891              | 596   | 441                   | 8     | 8                     | 236      | 189              | 213,780  | 48    | 213,311  | 157              | 264 | 623              | 2,315 | 50    | 350      | 221              | 1,695 |
| 2009 | 269,321             | 58,836  | 18,148             | 6,469 | 6                     | 32,029   | 1,606            | 578   | 465                   | 9     | 9                     | 151      | 296              | 206,447  | 41    | 205,858  | 295              | 253 | 933              | 2,640 | 48    | 380      | 380              | 1,832 |
| 2010 | 261,210             | 59,173  | 19,595             | 7,184 | 6                     | 29,209   | 2,515            | 663   | 551                   | 11    | 10                    | 118      | 412              | 197,095  | 41    | 196,379  | 423              | 252 | 1,225            | 3,166 | 47    | 673      | 518              | 1,928 |
| 2011 | 275,837             | 59,355  | 22,288             | 6,913 | 6                     | 26,719   | 2,623            | 805   | 649                   | 7     | 10                    | 234      | 398              | 211,623  | 42    | 210,897  | 423              | 261 | 1,297            | 2,913 | 40    | 411      | 531              | 1,932 |
| 2012 | 273,052             | 55,540  | 19,941             | 6,632 | 6                     | 25,840   | 2,603            | 518   | 488                   | 10    | 9                     | 102      | 367              | 212,699  | 43    | 211,949  | 444              | 263 | 1,454            | 2,871 | 40    | 310      | 579              | 1,941 |
| 2013 | 282,037             | 50,637  | 19,427             | 6,459 | 6                     | 21,756   | 2,523            | 466   | 521                   | 11    | 8                     | 124      | 378              | 226,064  | 48    | 225,267  | 473              | 275 | 1,569            | 3,245 | 35    | 522      | 609              | 2,079 |
| 2014 | 290,803             | 46,371  | 19,587             | 6,445 | 5                     | 17,428   | 2,450            | 455   | 482                   | 7     | 7                     | 84       | 384              | 238,768  | 55    | 237,909  | 517              | 286 | 1,672            | 3,511 | 35    | 602      | 671              | 2,203 |
| 2015 | 298,954             | 45,676  | 18,112             | 6,746 | 5                     | 18,005   | 2,404            | 403   | 481                   | 6     | 8                     | 86       | 383              | 247,160  | 59    | 246,279  | 529              | 293 | 1,774            | 3,864 | 40    | 751      | 743              | 2,330 |
| 2016 | 307,106             | 40,861  | 14,978             | 7,073 | 7                     | 15,878   | 2,433            | 492   | 624                   | 7     | 10                    | 122      | 397              | 260,013  | 61    | 259,057  | 531              | 365 | 1,855            | 3,692 | 47    | 719      | 819              | 2,107 |

TABLE 9

**U.S. development expenditures, by source of funds and performing sector: 1953–2021**

(Millions of current and of constant 2012 dollars)

| Year              | All funding sources | Federal |                    |       |                       |          |                  |       | Nonfederal government |       |                       |          |                  | Business |       |          |                  |     | Higher education | NPOs  |       |          |                  |       |
|-------------------|---------------------|---------|--------------------|-------|-----------------------|----------|------------------|-------|-----------------------|-------|-----------------------|----------|------------------|----------|-------|----------|------------------|-----|------------------|-------|-------|----------|------------------|-------|
|                   | All performers      | Total   | Federal intramural | FFRDC | Nonfederal government | Business | Higher education | NPO   | Total                 | FFRDC | Nonfederal government | Business | Higher education | Total    | FFRDC | Business | Higher education | NPO | Higher education | Total | FFRDC | Business | Higher education | NPO   |
| 2017              | 324,975             | 41,681  | 14,708             | 7,444 | 8                     | 16,460   | 2,473            | 587   | 606                   | 10    | 11                    | 86       | 415              | 277,332  | 60    | 276,336  | 563              | 372 | 1,945            | 3,339 | 47    | 520      | 866              | 1,906 |
| 2018              | 351,529             | 43,966  | 17,089             | 7,764 | 9                     | 15,680   | 2,522            | 903   | 622                   | 14    | 11                    | 77       | 440              | 301,570  | 59    | 300,562  | 566              | 383 | 1,989            | 3,296 | 49    | 678      | 828              | 1,741 |
| 2019              | 383,189             | 43,696  | 18,922             | 7,979 | 12                    | 13,407   | 2,722            | 654   | 649                   | 15    | 14                    | 99       | 438              | 333,691  | 53    | 332,654  | 562              | 420 | 1,970            | 3,074 | 49    | 549      | 781              | 1,694 |
| 2020 <sup>a</sup> | 414,597             | 50,620  | 18,954             | 8,243 | 17                    | 18,843   | 2,970            | 1,593 | 688                   | 13    | 20                    | 136      | 434              | 358,115  | 55    | 357,023  | 576              | 460 | 1,996            | 3,039 | 51    | 567      | 779              | 1,642 |
| 2021 <sup>b</sup> | 445,505             | 51,701  | 19,467             | 8,324 | 18                    | 19,279   | 3,005            | 1,608 | 700                   | 14    | 21                    | 142      | 438              | 387,826  | 61    | 386,719  | 581              | 464 | 2,038            | 3,099 | 53    | 597      | 790              | 1,658 |

NA = not available.

FFRDC = federally funded research and development center; NPO = nonprofit organization.

<sup>a</sup> Some data for 2020 are preliminary and may be revised later.<sup>b</sup> The data for 2021 include estimates and are likely to be revised later.**Note(s):**

This table reagggregates the R&D performer data in table 5 according to major categories of R&D funding: federal government, nonfederal government (state and local), business, higher education, and NPOs. Business sources of R&D funding in this table include the own funds of domestic R&D-performing businesses, funds from other domestic businesses, and funds from foreign businesses. For further detail on the R&D performers listed, see table 2, footnotes a–f. For detail on type-of-R&D data, see table 3, footnotes b–f. Detail may not add to total because of rounding. Constant-dollar estimates are derived from unrounded data. For trend comparisons, use only the historical data reported in this table because some back-year data may have been revised. Data are based on reports by performers in the National Center for Science and Engineering Statistics annual surveys on R&D expenditures: Business Enterprise Research and Development Survey, Annual Business Survey, Higher Education Research and Development Survey, Survey of Federal Funds for Research and Development, FFRDC Research and Development Survey, and Survey of State Government Research and Development. R&D expenditures by business performers—and, before 2001, also industry-administered FFRDCs—were collected on a calendar year basis. Expenditures for other performers are calendar year approximations based on fiscal year data. (See also table 5, general notes.)

**Source(s):**

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