

Table 7. International R&D expenditures (total and non-defense) in constant dollars and as a percentage of GDP: 1981-99

| Year | United States | Japan ¹ | Germany ² | France | United Kingdom | Italy | Canada | United States | Japan ¹ | Germany ² | France | United Kingdom | Italy | Canada | |
|-----------|--|--------------------|----------------------|--------|----------------|-------|--------|---|--------------------|----------------------|--------|----------------|-------|--------|--|
| | Total R&D expenditures | | | | | | | Total non-defense R&D expenditures ³ | | | | | | | |
| | Billions of constant 1996 dollars ⁴ | | | | | | | | | | | | | | |
| 1981..... | 115.9 | 36.4 | 24.7 | 17.5 | 18.3 | 7.3 | 5.5 | 85 | 36 | 23 | 15 | 15 | 7 | 5 | |
| 1982..... | 122.0 | 39.0 | 25.5 | 18.7 | NA | 7.5 | 6.0 | 88 | 39 | 24 | 15 | NA | 7 | 6 | |
| 1983..... | 130.8 | 42.3 | 26.1 | 19.3 | 17.9 | 8.0 | 6.1 | 92 | 41 | 25 | 16 | 14 | 8 | 6 | |
| 1984..... | 143.3 | 46.0 | 27.0 | 20.6 | NA | 8.8 | 6.6 | 99 | 45 | 26 | 17 | NA | 9 | 6 | |
| 1985..... | 155.8 | 51.3 | 30.0 | 21.5 | 19.5 | 10.1 | 7.3 | 108 | 52 | 29 | 17 | 16 | 10 | 7 | |
| 1986..... | 159.8 | 52.2 | 31.0 | 21.9 | 20.6 | 10.5 | 7.6 | 112 | 51 | 30 | 18 | 16 | 10 | 7 | |
| 1987..... | 162.8 | 56.0 | 33.4 | 22.9 | 21.0 | 11.4 | 7.7 | 110 | 56 | 31 | 18 | 17 | 11 | 8 | |
| 1988..... | 167.0 | 60.5 | 34.7 | 24.1 | 21.7 | 12.2 | 8.0 | 114 | 59 | 33 | 19 | 18 | 12 | 7 | |
| 1989..... | 170.4 | 66.6 | 36.2 | 25.7 | 22.4 | 12.9 | 8.2 | 125 | 65 | 34 | 21 | 18 | 12 | 8 | |
| 1990..... | 175.8 | 72.5 | 36.8 | 27.4 | 22.9 | 13.8 | 8.7 | 127 | 71 | 35 | 22 | 18 | 14 | 8 | |
| 1991..... | 179.5 | 74.6 | 39.7 | 27.9 | 21.3 | 13.4 | 8.9 | 140 | 74 | 38 | 22 | 17 | 13 | 9 | |
| 1992..... | 180.1 | 75.4 | 40.1 | 28.8 | 22.5 | 13.4 | 9.3 | 138 | 74 | 38 | 24 | 18 | 14 | 9 | |
| 1993..... | 176.2 | 73.5 | 38.7 | 28.1 | 22.6 | 12.2 | 9.8 | 141 | 74 | 38 | 25 | 19 | 12 | 10 | |
| 1994..... | 176.2 | 72.6 | 38.8 | 27.6 | 22.6 | 11.8 | 10.5 | 139 | 72 | 37 | 24 | 20 | 11 | 10 | |
| 1995..... | 187.2 | 80.1 | 40.2 | 28.2 | 22.1 | 11.7 | 11.3 | 151 | 78 | 39 | 24 | 19 | 12 | 11 | |
| 1996..... | 197.3 | 85.5 | 39.9 | 27.8 | 22.5 | 12.1 | 11.1 | 164 | 85 | 39 | 24 | 19 | 12 | 11 | |
| 1997..... | 208.3 | 88.2 | 41.1 | 26.6 | 22.3 | 11.7 | 11.5 | 171 | 88 | 39 | 24 | 19 | 12 | 11 | |
| 1998..... | 219.8 | 89.9 | 42.1 | 27.1 | 22.9 | 12.2 | 12.0 | 187 | 88 | 40 | 25 | 20 | 12 | 12 | |
| 1999..... | 233.0 | NA | NA | NA | NA | 12.7 | 12.2 | 195 | NA | NA | NA | NA | NA | NA | |
| | As a percent of national GDP | | | | | | | | | | | | | | |
| 1981..... | 2.31 | 2.13 | 2.43 | 1.93 | 2.39 | 0.88 | 1.24 | 1.7 | 2.1 | 2.3 | 1.6 | 1.9 | 0.9 | 1.2 | |
| 1982..... | 2.48 | 2.22 | 2.52 | 2.02 | NA | 0.91 | 1.39 | 1.8 | 2.2 | 2.4 | 1.6 | NA | 0.9 | 1.3 | |
| 1983..... | 2.55 | 2.35 | 2.52 | 2.06 | 2.21 | 0.95 | 1.36 | 1.8 | 2.3 | 2.4 | 1.7 | 1.7 | 0.9 | 1.3 | |
| 1984..... | 2.60 | 2.43 | 2.51 | 2.16 | NA | 1.01 | 1.40 | 1.8 | 2.4 | 2.4 | 1.8 | NA | 1.0 | 1.3 | |
| 1985..... | 2.72 | 2.58 | 2.72 | 2.22 | 2.25 | 1.13 | 1.44 | 1.9 | 2.6 | 2.6 | 1.8 | 1.8 | 1.1 | 1.4 | |
| 1986..... | 2.70 | 2.55 | 2.73 | 2.21 | 2.27 | 1.13 | 1.48 | 1.9 | 2.5 | 2.6 | 1.8 | 1.8 | 1.1 | 1.4 | |
| 1987..... | 2.66 | 2.62 | 2.88 | 2.24 | 2.20 | 1.19 | 1.43 | 1.8 | 2.6 | 2.7 | 1.8 | 1.8 | 1.2 | 1.4 | |
| 1988..... | 2.62 | 2.66 | 2.86 | 2.24 | 2.15 | 1.22 | 1.41 | 1.8 | 2.6 | 2.7 | 1.8 | 1.8 | 1.2 | 1.3 | |
| 1989..... | 2.59 | 2.77 | 2.87 | 2.29 | 2.16 | 1.24 | 1.40 | 1.9 | 2.7 | 2.7 | 1.9 | 1.7 | 1.2 | 1.3 | |
| 1990..... | 2.62 | 2.85 | 2.75 | 2.37 | 2.16 | 1.29 | 1.47 | 1.9 | 2.8 | 2.6 | 1.9 | 1.7 | 1.3 | 1.4 | |
| 1991..... | 2.69 | 2.82 | 2.54 | 2.37 | 2.08 | 1.23 | 1.53 | 2.1 | 2.8 | 2.4 | 1.9 | 1.7 | 1.2 | 1.5 | |
| 1992..... | 2.62 | 2.76 | 2.42 | 2.38 | 2.09 | 1.18 | 1.58 | 2.0 | 2.7 | 2.3 | 2.0 | 1.7 | 1.2 | 1.5 | |
| 1993..... | 2.49 | 2.68 | 2.37 | 2.40 | 2.12 | 1.13 | 1.63 | 2.0 | 2.7 | 2.3 | 2.1 | 1.8 | 1.1 | 1.6 | |
| 1994..... | 2.40 | 2.63 | 2.28 | 2.34 | 2.08 | 1.05 | 1.67 | 1.9 | 2.6 | 2.2 | 2.0 | 1.8 | 1.0 | 1.6 | |
| 1995..... | 2.48 | 2.77 | 2.26 | 2.31 | 1.99 | 1.00 | 1.64 | 2.0 | 2.7 | 2.2 | 2.0 | 1.7 | 1.0 | 1.6 | |
| 1996..... | 2.53 | 2.83 | 2.26 | 2.30 | 1.92 | 1.01 | 1.60 | 2.1 | 2.8 | 2.2 | 2.0 | 1.6 | 1.0 | 1.6 | |
| 1997..... | 2.55 | 2.91 | 2.29 | 2.21 | 1.84 | 0.99 | 1.61 | 2.1 | 2.9 | 2.2 | 2.0 | 1.6 | 1.0 | 1.6 | |
| 1998..... | 2.58 | 3.06 | 2.29 | 2.18 | 1.83 | 1.02 | 1.64 | 2.2 | 3.0 | 2.2 | 2.0 | 1.6 | 1.0 | 1.6 | |
| 1999..... | 2.63 | NA | NA | NA | NA | 1.05 | 1.61 | 2.2 | NA | NA | NA | NA | NA | NA | |

¹ Due to changes in methodology, data on Japanese R&D in 1996 and later years may not be consistent with data in earlier years.

² Germany's data for 1981-90 are for West Germany.

³ Nondefense R&D data are estimates. Foreign non-defense R&D/GDP ratios are obtained directly from OECD reports or are estimated by NSF from OECD data for: Japan for 1995 and later years; Germany for 1990 and earlier years; United Kingdom for 1988 and earlier years; Italy for 1986 and earlier years; and Canada for 1990 and later years.

⁴ Conversions of foreign currencies to U.S. dollars are calculated with OECD purchasing power parity exchange rates. Constant 1996 dollars are based on the U.S. GDP implicit price deflator.

KEY: GDP = Gross Domestic Product; NA = not available

SOURCES: Organisation for Economic Co-operation and Development, Main Science and Technology Indicators data base (Paris, May 2000) and National Science Foundation/SRS.