

DATA BRIEF

U.S. Research & Development Expenditures Continued Slow Growth in 1994

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Among the Nation's R&D-performing sectors, only universities and colleges increased their 1994 R&D expenditures by more than the rate of inflation.

Total expenditures for research and development (R&D) performed in the United States reached an estimated \$177 billion in 1994, about 1 percent more than the estimated \$174 billion spent in 1993 (table 1). In inflation-adjusted terms, however, 1994 expenditures declined by approximately 1 percent. Of the Nation's 1994 R&D total, 18 percent was expended for basic research activities, 23 percent for applied research, and 59 percent for development. Overall, R&D was 2.6 percent of gross domestic product (GDP). Estimates of R&D spending for 1993 and 1994 are projected from 1992 levels using more recent information from R&D performers and funders and time series modeling techniques. Trends in these and other R&D statistics are analyzed in the forthcoming report, *National Patterns of R&D Resources: 1994*.

In 1994, industry provided 59 percent (\$104 billion) and the Federal Government, 36 percent (\$64 billion) of the Nation's total

expenditures for R&D. State governments, universities and colleges, and other nonprofit organizations account for the remaining 5 percent (\$9 billion). Industry support increased an estimated 2 percent in 1994, and Federal support declined by 1 percent. In constant-dollar terms, both industrial and Federal support declined by 1 percent and 3 percent, respectively.

Consistent with providing most of the financial support for R&D in the United States, the industrial sector also performs the majority of the Nation's R&D. In 1994, industry—including associated Federally Funded Research and Development Centers (FFRDCs)—increased its performance of R&D by 1 percent, to a level of \$127 billion (a decrease of 2 percent after adjusting for inflation). Industry received about \$26 billion from the Federal Government in support of this work but financed most (\$101 billion) of the R&D with its own funds and with funds received under contract to other private organizations.

Table 1. National expenditures for research and development, by performing sector and source of funds: 1993-94

Sector	1993	1994	Percent change 1993-94	1993	1994	Percent change 1993-94
	Millions of dollars			Millions of 1987 dollars		
Total R&D.....	174,350	176,500	1	140,485	138,755	-1
By performing sector						
Industry.....	125,900	126,800	1	101,287	99,529	-2
Universities and colleges.....	19,700	20,800	6	15,951	16,430	3
University-administered FFRDCs.....	5,150	4,950	-4	4,170	3,910	-6
Federal Government.....	17,200	17,500	2	13,927	13,823	-1
Nonprofit institutions.....	6,400	6,450	1	5,149	5,063	-2
By funding sector						
Industry.....	101,700	103,700	2	81,825	81,405	-1
Universities and colleges.....	5,350	5,800	8	4,332	4,581	6
Federal Government.....	64,450	63,950	-1	52,027	50,367	-3
Nonprofit institutions.....	2,850	3,050	7	2,300	2,402	4

SOURCE: NSF/SRS, *National Patterns of R&D Resources: 1994*, forthcoming (Arlington, VA, 1995)

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Universities and colleges are the Nation's second-largest R&D-performing sector, accounting for approximately 12 percent of the R&D performed in this country. According to the most recent estimates, universities and colleges increased their level of performance by 6 percent (to \$21 billion) in 1994. This sector is the only one to have increased R&D performance by more than the expected rate of inflation, showing an inflation-adjusted growth rate of 3 percent between 1993 and 1994. The majority of support for R&D performed by the academic sector comes from the Federal Government, which in 1994 provided \$12 billion. R&D performed by university-administered FFRDCs declined by 4 percent, down 6 percent in inflation-adjusted terms. These FFRDCs spent an estimated \$5 billion in 1994 on R&D performance.

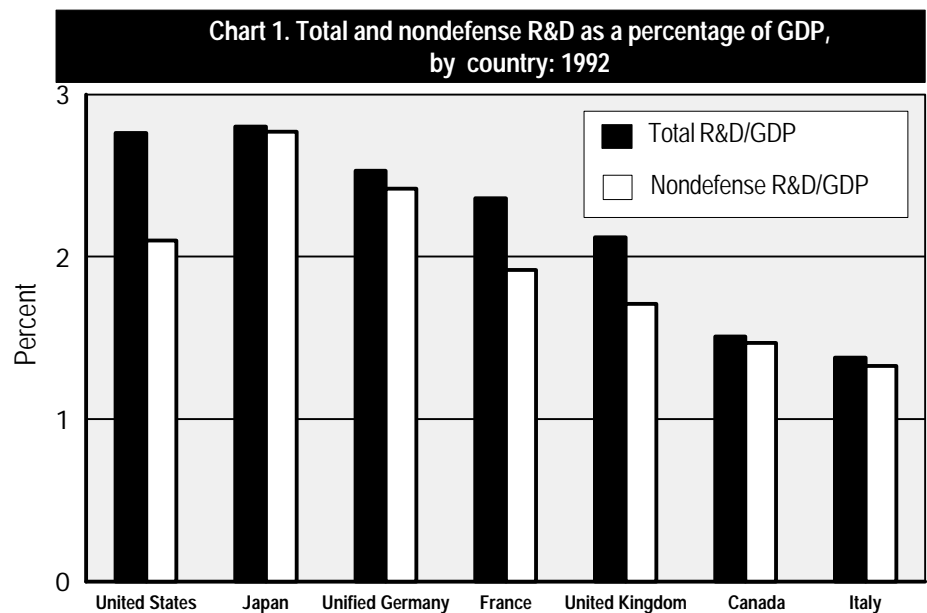
Both the Federal and nonprofit sectors show small increases in R&D performance over their 1993 levels. The Federal Government performed \$18 billion, up 2 percent over 1993 levels, and the nonprofit institutions, \$7 billion, up 1 percent. Both rates of increase are less than expected inflation.

Spending 2.76 percent of its GDP on R&D activities, the United States ranked second among leading

industrial countries in total expenditures for R&D as a share of GDP. Japan expended the largest share, 2.80 percent, and unified Germany was third at 2.53 percent (chart 1). These figures are for 1992, the most recent year for which such international data are available. Rankings based on 1992 expenditures for nondefense R&D place the U.S. R&D/GDP ratio (2.10 percent) in a more distant third place, below that of Japan (2.77 percent) and unified Germany (2.42 percent).

U.S. national R&D expenditures data were assembled from a number of NSF surveys. Estimates for 1993 and

1994 are projections of these survey data and are based on more recent information provided by Federal R&D funding agencies, an independent survey of industrial R&D performers, and time series modeling techniques. Foreign R&D expenditure data are derived from national and international sources. For more information contact John R. Gawalt, Science and Engineering Activities Program, Division of Science Resources Studies, National Science Foundation, 4201 Wilson Boulevard, Suite 965, Arlington, VA 22230. For a free copy, write to the above address, call 703-306-1773, or send e-mail to srspubs@nsf.gov.



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