Section A. Detailed Statistical Tables

Page

Table Notes 10

Company Size 10
Current and Constant Dollars 10
Disclosure and Suppression of Statistics 10
Geographic Statistics 10
Historical Statistics 11
Industry Classification 11
Manufacturing Industries 11
Nonmanufacturing Industries 11
Nonresponse and Imputation 12
Percentages 12
Reporting Unit 12
Rounding 12
Zeros 12

List of Tables 13

Tables 17

Table Notes

These notes pertain to the tables in this section and in section B, except as noted in footnotes and other explanatory information at the end of specific tables.

Company Size

Companies were categorized by total number of domestic employees. The following are the size classes used in this report:[13]

- 5 to 24 employees;
- 25 to 49 employees;
- 50 to 99 employees;
- 100 to 249 employees;
- 250 to 499 employees;
- 500 to 999 employees;
- 1,000 to 4,999 employees;
- 5,000 to 9,999 employees;
- 10,000 to 24,999 employees; and
- 25,000 or more employees.

The survey excludes companies with fewer than 5 employees to limit burden on small business enterprises in compliance with the Office of Management and Budget's (OMB) guidelines for Federal Government data collection activities.

To reduce the variability in the statistics that can be attributed to the random year-to-year selection of small companies by industry and the high sampling weights that sometimes are assigned to them, the frame from which the statistical sample was selected was divided into two partitions based on total company employment. In the manufacturing sector companies with employment of 50 or more and in the nonmanufacturing sector companies with employment of 15 or more were included in the large company partition. Companies in the respective sectors with employment below these values (but with at least 5 employees) were included in the small company partition. Because of this, detailed industry statistics were possible only from the large company partition; detailed industry statistics from the small company partition were not possible. In the tables, statistics from the small company partition are shown separately, but are included in "manufacturing," "nonmanufacturing," and "all industries" totals.[14]

Current and Constant Dollars

Statistics in all tables are reported in current dollars. Constant dollars also are presented in the summary tables (A-1, A-24, A-25, and A-26). Gross domestic product (GDP) implicit price deflators were used to convert current to constant dollars (see *The Methodology Underlying the Measurement of R&D Expenditures: 2000 (Data Update)* at http://www.nsf.gov/sbe/srs/srs02902/start.htm for a detailed discussion of the application of the deflators and a list of values).

Disclosure and Suppression of Statistics

Title 13 of the United States Code and a pledge of confidentiality to respondents prohibits publication or release of data or statistics that may reveal information about individual companies. Therefore, the data in some table cells have been deleted and replaced with "(D)." This occurs when a small number of companies account for a large percentage of the estimate in a particular data cell. Although publication of certain cells may be withheld, the estimates in the cells are always included in totals. The tables most often affected by cell suppression are those that contain data on Federal support for industrial R&D performance.

Geographic Statistics

The statistics in this report cover only those operations located in the 50 states and the District of Columbia. Statistics on company-sponsored R&D performed outside the United States by foreign subsidiaries of U.S. domestic companies are included in tables A-11 and A-12 but excluded from all other tables.

[13]See "Comparability of Statistics" in section B, for information on how this expanded array of company size classes compares to size classes used in previous reports.

[14]See "Frame Creation" and "Sample Selection" in section B for more information on the 5-employee cut-off and partitioning of the statistictical sample.

Historical Statistics

Prior to the 1999 report, tables classified by industry contained the current survey's statistics plus statistics for ten previous years. Because of the new classification system (see below), these tables now contain only statistics for the current year (2000) and one prior year (1999). However, to provide a bridge for users who want to make year-to-year comparisons below the aggregate level, in several tables statistics from the 1997 and 1998 cycles of the survey, which were previously classified and published using the SIC system, have been reclassified using the new NAICS codes. These reclassified statistics are slotted using their new NAICS classifications alongside the 1999 and 2000 statistics, which were estimated using NAICS from the outset.

Industry Classification

One North American Industrial Classification System (NAICS) code was assigned to each company. Multi-establishment companies were assigned a single code based on the most dominant aggregated activity for that firm in terms of total payroll.[15] Statistics for the following industries and industry groupings are published in this report (NAICS codes are given on the right[16]):

Manufacturing Industries	
	31+32+33
Food	311
Beverage and tobacco products	312
Textiles, apparel, and leather	313+314+315+316
Wood products	321
Paper, printing and support activities	322+323
Petroleum and coal products	324
Chemicals	325
Basic chemicals	3251
Resin, synthetic rubber, fibers, and filament	3252
Pharmaceuticals and medicines	3254
Other chemicals	325 minus (3251+3252+3254)
Plastics and rubber products	326
Nonmetallic mineral products	327
Primary metals	331
Fabricated metal products	332
Machinery	333
Computer and electronic products	334
Computers and peripheral equipment	3341
Communications equipment	3342
Semiconductor and other electronic components	3344
Navigational, measuring, electromedical, and control instruments	3345
Other computer and electronic products	334 minus (3341+3342+3344+3345)
Electrical equipment, appliances, and components	335
Transportation equipment	336
Motor vehicles, trailers, and parts	3361+3362+3363
Aerospace products and parts	3364
Other transportation equipment	336 minus (3361+3362+3363+3364)
Furniture and related products	337

[15]See "Comparability of Statistics" in section B for information on NAICS and how it compares with the Standard Industrial Classification (SIC) system used in reports prior to the 1999 edition.

[16]The 1997 version of NAICS was used for the 1999 survey.

Miscellaneous manufacturing	339
Medical equipment and supplies	3391
Other miscellaneous manufacturing	339 minus 3391
Other manufacturing	(31+32+33) minus [(311 through 316)+(321 through 327)+(331 through 337)+339)]
NONMANUFACTURRING INDUSTRIES	21+22+23+42+44+48+49+(51 through 56)+61+62+71+72+81)
Mining, extraction, and support activities	21
Utilities	22
Construction	23
Trade	42+44+45
Transportation and warehousing	48+49
Mining, extraction, and support activities	21
Utilities	22
Construction	23
Trade	42+44+45
Transportation and warehousing	48+49
Information	51
Publishing	511
Newspaper, periodical, book, and database	5111
Software	5112
Broadcasting and telecommunications	513
Radio and television broadcasting	5131
Telecommunications	5133
Other broadcasting and telecommunications	513 minus (5131+5133)
Other information	51 minus (511+513)
Finance, insurance, and real estate	52+53
Professional, scientific, and technical services	54
Architectural, engineering, and related services	5413
Computer systems design and related services	5415
Scientific R&D services	5417
Other professional, scientific, and technical services	54 minus (5413+5415+5417)
Management of companies and enterprises	55
Health care services	621+622+623
Other nonmanufacturing	56+61+624+71+72+81

Nonresponse and Imputation

For various reasons, some firms did not choose to return the survey form or returned it with one or more blank items.[17] Missing data for major data items were estimated using mathematical algorithms developed from industry comparisons, data from previous cycles of the survey, and other information. Therefore, the statistics in some table cells may be accompanied by the notation "(S)," which indicates that the imputation rate—the percentage of the statistic not reported by respondents and consequently estimated—exceeds 50 percent for that item. In such cases, the estimate may be statistically unreliable. See table B-5 for imputation rates for specific items.

Percentages

Percentages were calculated on the basis of thousands of dollars and may differ slightly from those calculated using the rounded figures shown.

Reporting Unit

The basic reporting unit was the company, firm, or enterprise that included all establishments under common ownership or control. All R&D expenditures and all information about scientists and engineers of each company were classified into a single NAICS code and size category.

[17]See "Survey Nonresponse" in section B for more information on the reasons for unit and item nonresponse.

Rounding

Because of rounding, detail items may not add to totals. Most money amounts are expressed in millions of dollars and are rounded down if less than $500,000 or up if $500,000 or more. Frequency estimates (e.g., number of companies) are accumulated from decimal weights assigned to company records[18] and are rounded down if less than 0.5 and rounded up if 0.5 or greater. Most employment counts (e.g., number of scientists and engineers) are expressed in thousands and are rounded down if less than 500 or up if 500 or greater.

Zeroes

Zeroes are shown in the tables when numerical values are accumulated from the statistical file to estimate a particular cell and the accumulated sum rounds to or equals zero. In the latter case, this accumulated sum is sometimes referred to as a "true zero." In the cases where there were no numerical values to accumulate, the cell is filled with "--" indicating that data were not collected. For example, in Table A-3, the 1999 and 2000 cells for "other manufacturing" contains "--" because data were not collected for 1999 and 2000 but were collected for prior years.[19]

[18]See "Weighting and Maximum Weights" in section B for information on how company records are weighted.

[19]For 1999 and 2000, with the advent of NAICS, data for the "other manufacturing" classification were not collected because all of the possible NAICS manufacturing industry classifications are represented elsewhere in the industry stub. In future years as NAICS is expanded, it is likely that data will be collected for the "other manufacturing" classification.

List of Tables

Table *Page*

Total Funds for R&D

A-1. Trends in total (Federal plus company and other) funds for industrial R&D performance in the U.S., by source of funds, in current and in constant dollars: 1953–2000 17

A-2. Summary data for companies performing industrial R&D in the U.S., by industry and size of company: 1999–2000 19

A-3. Total (Federal plus company and other) funds for industrial R&D performance in the U.S., by industry and size of company: 1997–2000 23

A-4. Total (Federal plus company and other) funds for industrial R&D performance in the U.S., by industry, by size of company: 2000 26

A-5. Total (Federal plus company and other) funds for industrial R&D performance in the U.S. and number of companies that performed R&D in the U.S., by industry and size of company, by size of total R&D program: 2000 29

A-6. Total (Federal plus company and other) funds for industrial R&D performance in the U.S. and number of companies in manufacturing and nonmanufacturing industries that performed industrial R&D in the U.S., by size of company: 2000 33

Company and Other Non-Federal Funds for R&D

A-7. Company and other non-Federal funds for industrial R&D performance in the U.S., by industry and size of company: 1997–2000 34

A-8. Company and other non-Federal funds for industrial R&D performance in the U.S., by industry, by size of company: 2000 37

A-9. Company and other non-Federal funds for industrial R&D performance in the U.S. and number of companies that performed company and other nonfederally funded R&D in the U.S., by industry and size of company, by size of nonfederally funded R&D program: 2000 40

A-10. Company and other non-Federal funds for industrial R&D performance in the U.S. contracted to outside organizations and number of R&D-performing companies that contracted out performance of company-funded R&D, by industry and size of company: 1997–2000 44

A-11. Company and other non-Federal funds for industrial R&D performance outside of the U.S. and number of companies with subsidiaries that performed industrial R&D both within and outside of the U.S., by industry and size of company: 1997–2000 48

A-12. Company and other non-Federal funds for industrial R&D performance outside of the U.S. and number of companies with subsidiaries that performed industrial R&D both within and outside of the U.S., by location of R&D performance (country): 2000 53

Table *Page*

Federal Funds for R&D

A-13. Federal funds for industrial R&D performance in the U.S., by industry and size of company: 1997–2000 54

A-14. Federal funds for industrial R&D performance in the U.S., by industry, by size of company: 2000 57

A-15. Federal funds for industrial R&D performance in the U.S. and number of companies that performed federally funded R&D in the U.S., by industry and size of company, by size of federally funded R&D program: 2000 60

A-16. Federal funds for industrial R&D performance in the U.S., by selected Federal agency and selected industry: 1997–2000 65

Sales of R&D-Performing Companies and R&D Funds as a Percentage of Sales

A-17. Domestic net sales of companies that performed industrial R&D in the U.S., by industry, by size of company: 2000 67

A-18. Concentration of total, Federal, and company and other industrial R&D funds and net sales of companies that performed industrial R&D in the U.S., ranked by size of R&D program: 1989–2000 70

A-19. Total (Federal plus company and other) funds for industrial R&D performance in the U.S. as a percent of net sales of companies that performed industrial R&D in the U.S., by industry and size of company: 1997–2000 71

A-20. Company and other non-Federal funds for industrial R&D performance in the U.S. as a percent of net sales of companies that performed industrial R&D in the U.S., by industry and size of company: 1997–2000 74

A-21. Total (Federal plus company and other) funds for industrial R&D performance in the U.S. as a percent of net sales of companies that performed industrial R&D in the U.S., by industry and size of company, ranked by size of R&D program: 2000 77

A-22. Company and other non-Federal funds for industrial R&D performance in the U.S. as a percent of net sales of companies that performed industrial R&D in the U.S., by industry and size of company, ranked by size of nonfederally funded R&D program: 2000 81

A-23. Federal funds for industrial R&D performance in the U.S. as a percent of net sales of companies that performed industrial R&D in the U.S., by industry and size of company, ranked by size of federally funded R&D program: 2000 85

Energy R&D

A-24. Total, Federal, company and other funds for industrial energy R&D performance in the U.S. and number of companies that performed energy R&D in the U.S., by selected industry and size of company: 2000 and projected 2001 89

Table *Page*

A-25. Total, Federal, company and other funds for industrial energy R&D performance in the U.S. and number of companies that performed energy R&D in the U.S., by primary energy source: 2000 and projected 2001 90

Geographic Distribution of R&D

A-26. Total (Federal plus company and other) funds for industrial R&D performance in the U.S., by state in selected years: 1981–2000 91

A-27. Total (Federal plus company and other) funds for industrial R&D performance in the U.S. and number of companies that performed R&D in the U.S., by state and source of funds: 2000 93

A-28. Total (Federal plus company and other) funds for industrial R&D performance in the U.S. and number of R&D-performing companies in the U.S., by industry and size of company, for the U.S. and top 10 R&D-performing states: 2000 95

Distribution by Type of R&D Cost

A-29. Total (Federal plus company and other) funds for industrial R&D performance in the U.S., by industry and size of company, by type of cost: 2000 99

Employment of R&D-Performing Companies

A-30. Domestic employment of companies that performed industrial R&D in the U.S., by industry, by size of company: 2000 102

A-31. R&D funds per employee spent by companies that performed industrial R&D in the U.S., by size of company: 1997-2000 105

A-32. Distribution of total employment in companies that performed industrial R&D in the U.S., ranked by size of R&D program: 1989–2000 106

A-33. Number of full-time equivalent (FTE) R&D scientists and engineers in companies that performed industrial R&D in the U.S., by industry and size of company, by source of R&D funds: January 2001 107

A-34. R&D funds per full-time equivalent (FTE) R&D scientist or engineer spent by companies that performed industrial R&D in the U.S., by industry, by size of company: 2000 110

A-35. R&D funds per full-time equivalent (FTE) R&D scientist or engineer spent by companies that performed industrial R&D in the U.S., ranked by size of R&D program: 1989-2000 114

A-36. Full-time equivalent (FTE) R&D scientists and engineers per 1,000 employees in companies that performed industrial R&D in the U.S., by industry and size of company: 1997–2000 115

Table A-1. **Trends in total (Federal plus company and other) funds for industrial R&D performance in the U.S., by source of funds, in current and in constant dollars: 1953–2000**

Year	Total R&D		Federal		Company [1]	
	Current dollars	Constant 1996 dollars	Current dollars	Constant 1996 dollars	Current dollars	Constant 1996 dollars
	[In millions of dollars]					
1953	3,630	18,857	1,430	7,429	2,200	11,429
1954	4,070	20,936	1,750	9,002	2,320	11,934
1955	4,640	23,458	2,180	11,021	2,460	12,437
1956	6,605	32,298	3,328	16,274	3,277	16,024
1957	7,731	36,588	4,335	20,516	3,396	16,072
1958	8,389	38,766	4,759	21,992	3,630	16,774
1959	9,618	43,958	5,635	25,754	3,983	18,204
1960	10,509	47,359	6,081	27,404	4,428	19,955
1961	10,908	48,610	6,240	27,807	4,668	20,802
1962	11,464	50,413	6,434	28,294	5,029	22,115
1963	12,630	54,913	7,270	31,609	5,360	23,304
1964	13,512	57,892	7,720	33,076	5,792	24,816
1965	14,185	59,651	7,740	32,548	6,445	27,103
1966	15,548	63,565	8,332	34,064	7,216	29,501
1967	16,385	64,994	8,365	33,181	8,020	31,813
1968	17,429	66,270	8,560	32,548	8,869	33,722
1969	18,308	66,357	8,451	30,631	9,857	35,727
1970	18,067	62,171	7,779	26,769	10,288	35,403
1971	18,320	60,026	7,666	25,118	10,654	34,908
1972	19,552	61,446	8,017	25,195	11,535	36,251
1973	21,249	63,241	8,145	24,241	13,104	39,000
1974	22,887	62,499	8,220	22,447	14,667	40,052
1975	24,187	60,422	8,605	21,496	15,582	38,926
1976	26,997	63,823	9,561	22,603	17,436	41,220
1977	29,825	66,248	10,485	23,290	19,340	42,959
1978	33,304	69,052	11,189	23,199	22,115	45,853
1979	38,226	73,160	12,518	23,958	25,708	49,202
1980	44,505	78,024	14,029	24,595	30,476	53,429
1981	51,810	83,069	16,382	26,266	35,428	56,803
1982	58,650	88,528	18,545	27,992	40,105	60,536
1983	65,268	94,756	20,680	30,023	44,588	64,733
1984	74,800	104,703	23,396	32,749	51,404	71,954
1985	84,239	114,315	27,196	36,906	57,043	77,409
1986	87,823	116,615	27,891	37,035	59,932	79,580
1987	92,155	118,787	30,752	39,639	61,403	79,148
1988 [2]	97,015	120,951	30,343	37,829	66,672	83,122
1989 [2]	102,055	122,559	28,554	34,291	73,501	88,268

See explanatory information and SOURCE at end of table.

Table A-1. **Trends in total (Federal plus company and other) funds for industrial R&D performance in the U.S., by source of funds, in current and in constant dollars: 1953–2000**

Year	Total R&D		Federal		Company [1]	
	Current dollars	Constant 1996 dollars	Current dollars	Constant 1996 dollars	Current dollars	Constant 1996 dollars
	[In millions of dollars]					
1990 [2]	109,727	126,837	28,125	32,511	81,602	94,327
1991 [2,3]	116,952	130,439	26,372	29,413	90,580	101,026
1992 [3]	119,110	129,693	24,722	26,919	94,388	102,774
1993 [3]	117,400	124,827	22,809	24,252	94,591	100,575
1994 [3]	119,595	124,565	22,463	23,397	97,131	101,168
1995 [3]	132,103	134,662	23,451	23,905	108,652	110,756
1996 [3]	144,667	144,667	23,653	23,653	121,015	121,015
1997 [3]	157,539	154,526	23,928	23,470	133,611	131,055
1998 [3]	169,180	163,902	24,164	23,410	145,016	140,492
1999 [3,4]	182,711	174,392	22,535	21,509	160,176	152,883
2000 [3]	199,539	186,642	19,118	17,882	180,421	168,760

[1] The company-funded R&D in this table is the industrial R&D performed within company facilities funded from all sources except the Federal Government. The funds predominantly are the company's own, but also include funds from outside organizations such as other companies, research institutions, universities and colleges, nonprofit organizations, and State governments. Excluded from this table are company-funded R&D not performed within the company (e.g., R&D contracted out to other organizations) and company-funded R&D not performed in the U.S. (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations).

[2] As a result of a new sample design, statistics for 1988–91 have been revised since originally published. These statistics now better reflect R&D performance among firms in the nonmanufacturing industries and small firms in all industries.

[3] As a result of the new sample design, statistics for 1991 and later years are not directly comparable with statistics for 1990 and earlier years. For more information, see the technical notes in Section B.

[4] Statistics for 1999 have been revised since originally published.

NOTE: Gross domestic product (GDP) implicit price deflators were used to convert current dollars to constant (1996) dollars.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-2. **Summary data for companies performing industrial R&D in the U.S., by industry and size of company: 1999–2000**

Industry and size of company	NAICS codes	Research and development funds						Domestic net sales		R&D scientists and engineers		Domestic employment	
		Total		Federal		Company				January [1]		March	
		1999 [2]	2000	1999 [2]	2000	1999 [2]	2000	1999 [2]	2000	2000	2001	1999 [2]	2000
		[In millions of dollars]								[In thousands]			
Distribution by industry:													
All industries	21–23, 31–33, 42, 44–81	182,711	199,539	22,535	19,118	160,176	180,421	4,925,124	5,249,573	1,033.7	1,041.3	18,221	17,663
Manufacturing [3]	31–33	116,921	124,078	17,055	13,328	99,865	110,750	3,126,793	3,405,208	596.7	608.8	10,930	11,010
Food	311	1,159	(D)	0	(D)	1,159	1,157	303,686	311,654	8.1	7.7	1,043	1,180
Beverage and tobacco products	312	(D)	430	0	0	(D)	430	52,984	56,737	1.9	2.0	77	89
Textiles, apparel, and leather	313–16	337	(D)	0	(D)	337	266	47,407	35,137	11.1	2.1	362	239
Wood products	321	70	180	0	0	70	180	13,772	13,602	0.7	(S) 1.6	71	75
Paper, printing and support activities	322, 323	(D)	(D)	(D)	(D)	2,496	2,710	173,124	167,446	(S) 13.5	(S) 12.6	688	643
Petroleum and coal products	324	615	(D)	(D)	(D)	(D)	1,172	157,630	353,210	3.0	(S) 2.8	116	191
Chemicals	325	20,372	21,284	194	157	20,178	21,128	396,513	362,448	84.9	(S) 83.2	1,023	859
Basic chemicals	3251	2,773	2,081	98	31	2,676	2,050	130,152	87,893	15.5	12.5	258	175
Resin, synthetic rubber, fibers, and filament	3252	(D)	2,874	(D)	11	2,216	2,863	52,526	50,886	8.0	10.0	124	127
Pharmaceuticals and medicines	3254	(D)	(D)	(D)	(D)	12,236	12,854	116,900	134,595	41.3	43.1	310	315
Other chemicals	325 (minus 3251–52, 3254)	(D)	(D)	(D)	(D)	3,050	3,360	96,936	89,074	20.1	(S) 17.6	331	243
Plastics and rubber products	326	1,845	(D)	0	(D)	1,845	1,693	93,057	119,612	14.0	12.7	562	836
Nonmetallic mineral products	327	(D)	886	(D)	1	611	886	41,315	49,359	3.8	7.6	222	242
Primary metals	331	470	624	12	(S) 26	457	598	110,440	122,752	(S) 5.0	(S) 4.6	368	358
Fabricated metal products	332	1,704	1,939	46	41	1,658	1,898	116,837	123,006	10.5	10.9	752	679
Machinery	333	6,327	6,766	(S) 411	41	5,916	6,725	179,375	176,210	56.0	53.9	913	794
Computer and electronic products	334	37,749	46,369	5,998	5,629	31,752	40,740	355,716	509,821	(S) 198.8	(S) 254.2	1,317	1,658
Computers and peripheral equipment	3341	(D)	5,171	(D)	0	4,126	5,171	64,016	80,446	21.3	23.6	167	175
Communications equipment	3342	6,081	12,539	206	503	5,875	12,036	51,428	119,416	(S) 46.6	(S) 85.0	203	426
Semiconductor and other electronic components	3344	10,827	12,919	77	107	10,750	12,812	129,096	172,663	(S) 53.8	(S) 65.4	381	494
Navigational, measuring, electromedical, and control instruments	3345	15,951	15,404	5,710	5,016	10,241	10,388	97,964	129,980	72.3	78.0	522	538
Other computer and electronic products	334 (minus 3341–42, 3344–45)	(D)	337	(D)	3	760	334	13,212	7,317	4.8	2.3	43	27

See explanatory information and SOURCE at end of table.

Table A-2. **Summary data for companies performing industrial R&D in the U.S., by industry and size of company: 1999–2000**

Industry and size of company	NAICS codes	Research and development funds						Domestic net sales		R&D scientists and engineers		Domestic employment	
		Total		Federal		Company				January [1]		March	
		1999 [2]	2000	1999 [2]	2000	1999 [2]	2000	1999 [2]	2000	2000	2001	1999 [2]	2000
		[In millions of dollars]								[In thousands]			
Distribution by industry:													
Electrical equipment, appliances, and components	335	(D)	(D)	(D)	(D)	3,967	3,595	165,773	164,902	25.5	24.3	658	520
Transportation equipment	336	34,059	30,185	10,074	7,168	23,985	23,017	814,873	750,644	(S) 139.4	(S) 109.0	2,159	2,057
Motor vehicles, trailers, and parts	3361–63	18,274	(D)	241	(D)	18,033	18,406	611,608	568,315	76.0	75.6	1,186	1,253
Aerospace products and parts	3364	14,425	10,319	9,117	6,424	5,309	3,895	163,567	141,548	(S) 55.3	25.1	768	587
Other transportation equipment	336 (minus 3361–64)	1,359	(D)	716	(D)	643	716	39,697	40,780	8.1	(S) 8.3	205	217
Furniture and related products	337	251	291	0	0	251	291	34,549	38,459	2.7	3.0	248	262
Miscellaneous manufacturing	339	4,226	4,278	31	14	4,195	4,264	69,743	50,208	17.8	16.6	351	326
Medical equipment and supplies	3391	3,615	3,787	26	12	3,589	3,776	43,071	29,233	12.9	12.3	208	206
Other miscellaneous manufacturing	339 (minus 3391)	611	491	5	2	606	489	26,672	20,975	4.9	4.3	143	120
Other manufacturing	31–33 (minus 311–16, 321–27, 331–37, 339)	--	--	--	--	--	--	--	--	--	--	--	--
Nonmanufacturing [3]	21–23, 42, 44–81	65,790	75,461	5,479	5,790	60,311	69,671	1,798,331	1,844,364	437.1	432.5	7,291	6,652
Mining, extraction, and support activities	21	(D)	985	(D)	1	2,352	984	124,380	83,653	5.6	5.4	358	182
Utilities	22	142	(D)	17	(D)	126	136	194,395	232,802	0.7	0.6	410	392
Construction	23	699	241	2	18	697	222	41,395	12,162	8.3	0.9	270	62
Trade	42, 44, 45	19,960	25,132	96	30	19,864	25,101	361,790	468,717	125.2	100.8	1,339	1,313
Transportation and warehousing	48, 49	466	(D)	0	(D)	466	277	88,184	89,405	4.8	1.9	756	681
Information	51	15,421	17,000	497	(S) 540	14,925	16,460	433,614	407,845	114.2	118.1	1,665	1,565
Publishing	511	11,335	13,174	49	78	11,286	13,096	84,438	80,469	79.7	87.7	348	354
Newspaper, periodical, book, and database	5111	371	365	0	0	371	365	19,028	18,015	3.2	3.6	124	117
Software	5112	10,964	12,809	49	78	10,915	12,731	65,410	62,455	76.5	84.1	223	237
Broadcasting and telecommunications	513	(D)	1,407	(D)	(S) 382	1,393	1,025	323,069	279,983	15.7	(S) 12.0	1,153	1,018
Radio and television broadcasting	5131	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Telecommunications	5133	(D)	(D)	(D)	(D)	(D)	(D)	313,679	272,351	(D)	(D)	1,100	972
Other broadcasting and telecommunications	513 (minus 5131, 5133)	31	59	13	0	18	59	(D)	(D)	0.4	0.2	(D)	(D)
Other information	51 (minus 511, 513)	(D)	2,420	(D)	81	2,246	2,339	26,108	47,392	18.7	18.4	165	193

See explanatory information and SOURCE at end of table.

Table A-2. **Summary data for companies performing industrial R&D in the U.S., by industry and size of company: 1999–2000**

Industry and size of company	NAICS codes	Research and development funds						Domestic net sales		R&D scientists and engineers		Domestic employment	
		Total		Federal		Company				January [1]		March	
		1999 [2]	2000	1999 [2]	2000	1999 [2]	2000	1999 [2]	2000	2000	2001	1999 [2]	2000
		[In millions of dollars]								[In thousands]			
Distribution by industry:													
Finance, insurance, and real estate	52, 53	(D)	4,025	(D)	0	1,576	4,024	336,861	335,868	16.9	20.5	834	829
Professional, scientific, and technical services	54	23,640	26,036	4,837	5,104	18,803	20,932	132,199	124,342	145.1	172.5	761	756
Architectural, engineering, and related services	5413	4,124	3,632	1,215	1,186	2,909	2,445	36,380	33,299	39.4	36.8	194	174
Computer systems design and related services	5415	(D)	7,141	(D)	389	4,750	6,753	38,414	42,857	46.1	62.2	250	278
Scientific R&D services	5417	11,264	14,018	3,242	3,452	8,022	10,566	25,046	30,696	51.9	64.3	144	165
Other professional, scientific, and technical services	54 (minus 5413, 5415, 5417)	(D)	1,245	(D)	77	3,121	1,168	32,359	17,489	7.6	9.2	173	139
Management of companies and enterprises	55	(D)	49	(D)	0	81	49	1,319	1,124	0.5	0.3	7	3
Health care services	621–23	660	632	10	59	650	573	10,286	17,677	6.4	4.6	51	156
Other nonmanufacturing	56, 61, 624, 71, 72, 81	790	929	19	18	771	911	73,907	70,769	9.4	6.8	839	714

See explanatory information and SOURCE at end of table.

Table A-2. **Summary data for companies performing industrial R&D in the U.S., by industry and size of company: 1999–2000**

Industry and size of company	NAICS codes	Research and development funds						Domestic net sales		R&D scientists and engineers		Domestic employment	
		Total		Federal		Company				January [1]		March	
		1999 [2]	2000	1999 [2]	2000	1999 [2]	2000	1999 [2]	2000	2000	2001	1999 [2]	2000
		[In millions of dollars]								[In thousands]			
Distribution by size of company: [Number of employees]													
Total	(na)	182,711	199,539	22,535	19,118	160,176	180,421	4,925,124	5,249,573	1,033.7	1,041.0	18,221	17,663
5 to 24	(na)	7,004	6,862	611	922	6,393	5,940	38,554	34,562	51.2	53.6	206	182
25 to 49	(na)	4,750	5,008	368	222	4,382	4,786	41,243	35,717	34.8	32.3	242	180
50 to 99	(na)	7,225	7,259	603	514	6,623	6,745	50,899	60,164	57.7	35.8	353	324
100 to 249	(na)	7,213	9,020	674	669	6,540	8,351	94,852	104,013	49.0	55.6	607	594
250 to 499	(na)	7,892	7,479	485	660	7,407	6,819	126,124	110,989	45.2	45.7	665	579
500 to 999	(na)	7,032	9,074	591	495	6,441	8,580	160,105	182,179	64.2	66.7	779	723
1,000 to 4,999	(na)	24,840	30,636	896	775	23,944	29,860	764,918	844,513	154.9	154.3	2,678	3,120
5,000 to 9,999	(na)	16,376	16,768	2,194	1,625	14,182	15,143	631,873	702,858	120.4	(S) 107.3	2,078	1,830
10,000 to 24,999	(na)	24,922	28,653	397	678	24,525	27,976	891,633	890,004	115.9	151.6	3,103	2,730
25,000 or more	(na)	75,457	78,779	15,717	12,559	59,740	66,221	2,124,925	2,284,573	340.4	(S) 338.4	7,510	7,400

[1] Data recorded in January represent employment figures for the previous year.

[2] Some statistics for 1999 have been revised since originally published.

[3] Manufacturing companies with fewer than 50 employees and nonmanufacturing companies with fewer than 15 employees were sampled separately without regard to industry classification to minimize year-to-year variation in survey estimates. However, estimates for companies in these groups are included with their respective NAICS classification for this table. For other tables, they are combined with estimates for companies in "small manufacturing companies" and "small nonmanufacturing companies," respectively.

KEY: (D) = Data have been withheld to avoid disclosing operations of individual companies.
(S) = Indicates imputation of more than 50 percent.
(--) = Indicates data not collected.
(na) = Not applicable.

NOTE: Starting with the 1999 survey, estimates are based on the North American Industry Classification System (NAICS). In prior years, estimates were based on the Standard Industrial Classification (SIC) system.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-3. **Total (Federal plus company and other) funds for industrial R&D performance in the U.S., by industry and size of company: 1997–2000**

Industry and size of company	NAICS codes	1997	1998	1999 [1]	2000
		[In millions of dollars]			
Distribution by industry:					
All industries [2]	21–23, 31–33, 42, 44–81	157,539	169,180	182,711	199,539
Manufacturing	31–33	--	--	116,921	124,078
Food	311	1,244	1,305	1,132	(D)
Beverage and tobacco products	312	447	384	(D)	417
Textiles, apparel, and leather	313–16	378	399	334	(D)
Wood products	321	26	60	70	105
Paper, printing and support activities	322, 323	(D)	(D)	(D)	(D)
Petroleum and coal products	324	(D)	1,395	615	(D)
Chemicals	325	16,492	18,969	20,246	20,918
Basic chemicals	3251	1,859	3,610	2,746	2,080
Resin, synthetic rubber, fibers, and filament	3252	(D)	(D)	(D)	2,852
Pharmaceuticals and medicines	3254	(D)	(D)	(D)	(D)
Other chemicals	325 (minus 3251–52, 3254)	(D)	(D)	(D)	(D)
Plastics and rubber products	326	1,484	1,625	1,785	(D)
Nonmetallic mineral products	327	548	558	(D)	846
Primary metals	331	992	(D)	470	624
Fabricated metal products	332	1,906	1,781	1,655	1,672
Machinery	333	5,610	(D)	6,057	6,580
Computer and electronic products	334	33,988	38,209	35,932	45,097
Computers and peripheral equipment	3341	(D)	(D)	(D)	5,162
Communications equipment	3342	2,930	8,974	6,003	11,616
Semiconductor and other electronic components	3344	(D)	9,131	10,701	12,894
Navigational, measuring, electromedical, and control instruments	3345	8,030	11,232	14,337	15,116
Other computer and electronic products	334 (minus 3341–42, 3344–45)	543	(D)	(D)	310
Electrical equipment, appliances, and components	335	2,741	2,280	(D)	(D)
Transportation equipment	336	34,422	31,359	33,965	30,085
Motor vehicles, trailers, and parts	3361–63	(D)	(D)	(D)	(D)
Aerospace products and parts	3364	17,865	16,359	14,425	10,319
Other transportation equipment	336 (minus 3361–64)	(D)	(D)	(D)	(D)
Furniture and related products	337	240	211	248	284
Miscellaneous manufacturing	339	3,457	(D)	3,851	4,206
Medical equipment and supplies	3391	3,041	(D)	(D)	(D)
Other miscellaneous manufacturing	339 (minus 3391)	416	525	(D)	(D)
Other manufacturing [3]	31–33 (minus 311–16, 321–27, 331–37, 339)	(S)	23	(D)	--	--
Small manufacturing companies [4]	Fewer than 50 employees	2,509	2,316	3,019	2,643

See explanatory information and SOURCE at end of table.

Table A-3. **Total (Federal plus company and other) funds for industrial R&D performance in the U.S., by industry and size of company: 1997–2000**

Industry and size of company	NAICS codes	1997	1998	1999 [1]	2000
		[In millions of dollars]			
Distribution by industry:					
Nonmanufacturing	21–23, 42, 44–81	--	--	65,790	75,461
Mining, extraction, and support activities	21	(D)	(D)	(D)	823
Utilities	22	(D)	(D)	142	(D)
Construction	23	241	(D)	691	(D)
Trade	42, 44, 45	(D)	16,492	19,616	24,959
Transportation and warehousing	48, 49	(D)	253	460	(D)
Information	51	10,595	13,581	15,389	16,830
Publishing	511	7,582	9,589	11,302	13,004
Newspaper, periodical, book, and database	5111	340	334	371	365
Software	5112	7,242	9,255	10,931	12,639
Broadcasting and telecommunications	513	(D)	(D)	(D)	(S) 1,407
Radio and television broadcasting	5131	(D)	(D)	(D)	(D)
Telecommunications	5133	(D)	(D)	(D)	(D)
Other broadcasting and telecommunications	513 (minus 5131, 5133)	12	(D)	31	59
Other information	51 (minus 511, 513)	(D)	(D)	(D)	2,420
Finance, insurance, and real estate	52, 53	(D)	(D)	(D)	4,025
Professional, scientific, and technical services	54	12,999	16,168	18,994	22,577
Architectural, engineering, and related services	5413	2,210	3,180	3,580	3,381
Computer systems design and related services	5415	(D)	(D)	(D)	5,169
Scientific R&D services	5417	7,023	9,062	10,470	12,892
Other professional, scientific, and technical services	54 (minus 5413, 5415, 5417)	(D)	(D)	(D)	1,135
Management of companies and enterprises	55	309	417	(D)	49
Health care services	621–23	639	617	642	536
Other nonmanufacturing [3]	56, 61, 624, 71, 72, 81	953	2,124	(D)	731
Small nonmanufacturing companies [4]	Fewer than 15 employees	(D)	2,849	5,203	4,276

See explanatory information and SOURCE at end of table.

Table A-3. **Total (Federal plus company and other) funds for industrial R&D performance in the U.S., by industry and size of company: 1997–2000**

Industry and size of company	NAICS codes	1997	1998	1999 [1]	2000
		[In millions of dollars]			
Distribution by size of company: [Number of employees]					
Total	(na)	157,539	169,180	182,711	199,539
5 to 24	(na)	3,304	4,943	7,004	6,862
25 to 49	(na)	3,028	3,323	4,750	5,008
50 to 99	(na)	4,251	6,415	7,225	7,259
100 to 249	(na)	7,176	8,681	7,213	9,020
250 to 499	(na)	6,304	6,814	7,892	7,479
500 to 999	(na)	4,966	5,495	7,032	9,074
1,000 to 4,999	(na)	19,590	21,525	24,840	30,636
5,000 to 9,999	(na)	14,266	14,053	16,376	16,768
10,000 to 24,999	(na)	21,510	24,876	24,922	28,653
25,000 or more	(na)	73,144	73,055	75,457	78,779

[1] Some statistics for 1999 have been revised since originally published.

[2] The totals for "all industries" prior to 1999 are identical to corresponding totals previously published using the Standard Industrial Classification (SIC) system. Also, pre-1999 detail published using the North American Industry Classification System (NAICS) may not add to the totals. See the 'NOTES' below.

[3] Manufacturing companies in the 1997 and 1998 samples that could not be classified with a NAICS code are included in "other manufacturing;" nonmanufacturing companies that could not be classified with a NAICS code are included in "other nonmanufacturing."

[4] The frame from which the statistical sample was selected was divided into two partitions based on total company employment. In the manufacturing sector, companies with employment of 50 or more were included in the large company partition. In the nonmanufacturing sector, companies with employment of 15 or more were included in the large company partition. Companies in the respective sectors with employment below these values, but with at least 5 employees, were included in the small company partition. The purpose of partitioning the sample this way was to reduce the variability in industry estimates largely attributed to the random year-to-year selection of small companies by industry and the high sampling weights that sometimes were assigned to them. Because of this, detailed industry statistics were possible only from the large company partition; detailed industry statistics from the small company partition were not possible. Statistics from the small company partition are shown separately and are included in manufacturing, nonmanufacturing, and all industries totals. For more information, see "frame creation" and "sample selection" in the technical notes in Section B.

KEY: (D) = Data have been withheld to avoid disclosing operations of individual companies.
(S) = Indicates imputation of more than 50 percent.
(--) = Indicates data not collected.
(na) = Not applicable.

NOTES: Starting with the 1999 survey, estimates are based on the North American Industry Classification System (NAICS). In prior years, estimates were based on the Standard Industrial Classification (SIC) system. For this table, companies in the 1997 and 1998 surveys were assigned NAICS industry codes based on their SIC industry codes. Consequently, the estimates for 1997 and 1998 in this table are not necessarily representative of the NAICS categories of industries in those years. They are included for comparison purposes only.

The R&D in this table is the industrial R&D performed within company facilities funded from all sources. The funds are the company's own; funds from outside organizations such as other companies, research institutions, universities and colleges, nonprofit organizations, and State governments; and funds from the Federal Government. Excluded from this table are R&D not performed within the company (e.g., R&D contracted out to other organizations) and R&D not performed in the U.S. (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations).

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-4. **Total (Federal plus company and other) funds for industrial R&D performance in the U.S., by industry, by size of company: 2000**

Industry	NAICS codes	Total	Size of company [number of employees]									
			5 to 24	25 to 49	50 to 99	100 to 249	250 to 499	500 to 999	1,000 to 4,999	5,000 to 9,999	10,000 to 24,999	25,000 or more
		[In millions of dollars]										
Distribution by industry:												
All industries	21–23, 31–33, 42, 44–81	199,539	6,862	5,008	7,259	9,020	7,479	9,074	30,636	16,768	28,653	78,779
Manufacturing	31–33	124,078	1,016	1,460	1,563	2,050	2,578	4,602	14,756	(D)	(D)	65,465
Food	311	(D)	0	0	(D)	5	21	45	307	283	200	282
Beverage and tobacco products	312	417	0	0	0	0	0	0	27	(D)	0	(D)
Textiles, apparel, and leather	313–16	(D)	(D)	0	9	25	13	(D)	110	12	44	(D)
Wood products	321	105	0	0	0	3	2	4	(D)	(D)	(D)	0
Paper, printing and support activities	322, 323	(D)	0	0	2	8	(D)	0	73	115	(D)	2,138
Petroleum and coal products	324	(D)	0	0	0	0	(D)	43	(D)	(D)	167	908
Chemicals	325	20,918	0	(D)	(D)	185	190	816	2,581	(D)	(D)	(D)
Basic chemicals	3251	2,080	0	0	(D)	54	23	580	(D)	(D)	(D)	0
Resin, synthetic rubber, fibers, and filament	3252	2,852	0	0	5	0	(D)	0	(D)	(D)	(D)	(D)
Pharmaceuticals and medicines	3254	(D)	0	(D)	51	54	(D)	110	(D)	1,428	6,284	3,780
Other chemicals	325 (minus 3251–52, 3254)	(D)	0	0	79	77	82	126	490	1,316	(D)	(D)
Plastics and rubber products	326	(D)	4	2	69	74	(D)	282	368	203	218	414
Nonmetallic mineral products	327	846	0	0	68	(D)	29	10	(D)	99	113	(D)
Primary metals	331	624	0	0	(D)	0	20	78	114	(D)	(D)	(D)
Fabricated metal products	332	1,672	9	6	39	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Machinery	333	6,580	7	41	249	320	340	402	1,584	(D)	(D)	(D)
Computer and electronic products	334	45,097	(D)	48	484	804	1,536	2,203	7,240	(D)	(D)	(D)
Computers and peripheral equipment	3341	5,162	0	0	98	66	191	400	598	(D)	(D)	0
Communications equipment	3342	11,616	0	31	64	134	(D)	(D)	(D)	(D)	(D)	(D)
Semiconductor and other electronic components	3344	12,894	(D)	(D)	187	96	(D)	(D)	(D)	(D)	(D)	(D)
Navigational, measuring, electromedical, and control instruments	3345	15,116	0	0	125	489	267	(D)	(D)	(D)	1,718	8,775
Other computer and electronic products	334 (minus 3341–42, 3344–45)	310	0	(D)	10	20	19	68	(D)	0	0	0
Electrical equipment, appliances, and components	335	(D)	0	0	103	158	31	(D)	466	117	713	(D)

See explanatory information and SOURCE at end of table.

Table A-4. **Total (Federal plus company and other) funds for industrial R&D performance in the U.S., by industry, by size of company: 2000**

Industry	NAICS codes	Total	Size of company [number of employees]									
			5 to 24	25 to 49	50 to 99	100 to 249	250 to 499	500 to 999	1,000 to 4,999	5,000 to 9,999	10,000 to 24,999	25,000 or more
		[In millions of dollars]										
Distribution by industry:												
Transportation equipment	336	30,085	0	0	44	(D)	105	215	716	991	(D)	26,912
Motor vehicles, trailers, and parts	3361–63	(D)	0	0	11	90	68	84	(D)	350	(D)	(D)
Aerospace products and parts	3364	10,319	0	0	30	(D)	0	(D)	(D)	(D)	(D)	9,481
Other transportation equipment	336 (minus 3361–64)	(D)	0	0	3	(D)	37	(D)	86	(D)	(D)	(D)
Furniture and related products	337	284	0	0	0	10	(D)	15	39	59	(S) 124	(D)
Miscellaneous manufacturing	339	4,206	5	(D)	111	189	150	(D)	(D)	742	0	(D)
Medical equipment and supplies	3391	(D)	0	(D)	(D)	151	122	(D)	(D)	(D)	0	(D)
Other miscellaneous manufacturing	339 (minus 3391)	(D)	5	0	(D)	38	28	41	(D)	(D)	0	0
Other manufacturing	31–33 (minus 311–16, 321–27, 331–37, 339)	--	--	--	--	--	--	--	--	--	--	--
Small manufacturing companies [1]	Fewer than 50 employees	2,643	(D)	(D)	238	78	0	0	0	0	0	0
Nonmanufacturing	21–23, 42, 44–81	75,461	5,846	3,549	5,696	6,970	4,901	4,472	15,879	(D)	(D)	13,314
Mining, extraction, and support activities	21	823	(D)	0	(D)	0	(D)	22	46	(D)	(D)	(D)
Utilities	22	(D)	0	0	0	0	11	23	23	30	(D)	(D)
Construction	23	(D)	0	0	0	149	0	7	13	(D)	(D)	0
Trade	42, 44, 45	24,959	187	727	(D)	341	353	1,441	5,830	1,630	(D)	(D)
Transportation and warehousing	48, 49	(D)	(D)	0	0	13	44	11	(D)	(D)	(D)	(D)
Information	51	16,830	201	414	(D)	1,203	1,019	1,089	(D)	686	(D)	(D)
Publishing	511	13,004	86	414	(D)	959	643	1,044	(D)	(D)	5,021	(D)
Newspaper, periodical, book, and database	5111	365	3	7	(D)	0	102	(D)	(D)	(D)	(D)	(D)
Software	5112	12,639	82	407	(D)	959	541	(D)	(D)	(D)	(D)	0
Broadcasting and telecommunications	513	(S) 1,407	0	0	(D)	(D)	63	30	(D)	0	(D)	(D)
Radio and television broadcasting	5131	(D)	0	0	0	0	0	0	0	0	0	(D)
Telecommunications	5133	(D)	0	0	(D)	(D)	4	30	(D)	0	(D)	(D)
Other broadcasting and telecommunications	513 (minus 5131, 5133)	59	0	0	0	0	59	0	0	0	0	0
Other information	51 (minus 511, 513)	2,420	115	0	18	(D)	312	15	(D)	(D)	(D)	(D)

See explanatory information and SOURCE at end of table.

Table A-4. **Total (Federal plus company and other) funds for industrial R&D performance in the U.S., by industry, by size of company: 2000**

Industry	NAICS codes	Total	Size of company [number of employees]									
			5 to 24	25 to 49	50 to 99	100 to 249	250 to 499	500 to 999	1,000 to 4,999	5,000 to 9,999	10,000 to 24,999	25,000 or more
		[In millions of dollars]										
Distribution by industry:												
Finance, insurance, and real estate	52, 53	4,025	24	10	24	(D)	(D)	15	2,505	(S) 354	359	698
Professional, scientific, and technical services	54	22,577	1,069	2,237	3,004	5,092	3,214	1,795	2,896	(D)	(D)	(D)
Architectural, engineering, and related services	5413	3,381	140	238	759	370	353	(D)	(D)	(D)	(D)	0
Computer systems design and related services	5415	5,169	125	(D)	704	1,257	(D)	(D)	(D)	187	0	(D)
Scientific R&D services	5417	12,892	627	1,302	1,533	2,993	1,863	1,090	767	(D)	0	(D)
Other professional, scientific, and technical services	54 (minus 5413, 5415, 5417)	1,135	178	(D)	9	473	(D)	(D)	33	(D)	(D)	(D)
Management of companies and enterprises	55	49	1	13	4	(D)	0	(D)	0	0	0	0
Health care services	621–23	536	(D)	(D)	12	119	(D)	0	245	(D)	0	(D)
Other nonmanufacturing	56, 61, 624, 71, 72, 81	731	62	105	2	0	(D)	(D)	128	0	54	(S) 182
Small nonmanufacturing companies [1]	Fewer than 15 employees	4,276	(D)	(D)	0	0	0	0	0	0	0	0

[1] The frame from which the statistical sample was selected was divided into two partitions based on total company employment. In the manufacturing sector, companies with employment of 50 or more were included in the large company partition. In the nonmanufacturing sector, companies with employment of 15 or more were included in the large company partition. Companies in the respective sectors with employment below these values, but with at least 5 employees, were included in the small company partition. The purpose of partitioning the sample this way was to reduce the variability in industry estimates largely attributed to the random year-to-year selection of small companies by industry and the high sampling weights that sometimes were assigned to them. Because of this, detailed industry statistics were possible only from the large company partition; detailed industry statistics from the small company partition were not possible. Statistics from the small company partition are shown separately and are included in manufacturing, nonmanufacturing, and all industries totals. Note that because companies were assigned to the "small company" partition of the sample based on preliminary information available from the sampling frame and the number of employees may have been revised during statistical processing, some companies' statistics are reported in size categories above the 50 employee threshold for manufacturing companies and the 15 employee threshold for nonmanufacturing companies. For more information, see "frame creation" and "sample selection" in the technical notes in Section B.

KEY: (D) = Data have been withheld to avoid disclosing operations of individual companies.
(S) = Indicates imputation of more than 50 percent.
(--) = Indicates data not collected.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-5. **Total (Federal plus company and other) funds for industrial R&D performance in the U.S. and number of companies that performed R&D in the U.S., by industry and size of company, by size of total R&D program: 2000**

Industry and size of company	NAICS codes	Total number of companies	Total amount	Size of R&D program: Less than $200,000		$200,000 to $999,999		$ 1 million to $9.9 million		$ 10 million to $99.9 million		$100 million or more	
				Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]
Distribution by industry:													
All industries	21–23, 31-33, 42, 44–81	35,273	199,539	17,947	1,001	9,470	4,708	6,088	19,883	1,547	44,922	221	129,025
Manufacturing	31–33	17,176	124,078	9,956	579	3,880	1,771	2,561	7,760	635	18,047	145	95,921
Food	311	301	(D)	110	11	54	35	114	306	21	(D)	1	(D)
Beverage and tobacco products	312	7	417	0	0	0	0	3	9	3	(D)	1	(D)
Textiles, apparel, and leather	313–16	256	(D)	140	(D)	67	29	43	118	7	110	0	0
Wood products	321	40	105	16	1	16	8	5	10	3	86	0	0
Paper, printing and support activities	322, 323	292	(D)	259	11	0	0	14	80	16	(D)	3	(D)
Petroleum and coal products	324	44	(D)	0	0	23	11	13	48	4	99	4	(D)
Chemicals	325	684	20,918	174	14	150	77	224	584	107	(D)	29	(D)
Basic chemicals	3251	136	2,080	34	4	0	0	43	(D)	55	(D)	3	(D)
Resin, synthetic rubber, fibers, and filament	3252	58	2,852	44	5	0	0	1	(D)	8	(D)	5	2,586
Pharmaceuticals and medicines	3254	135	(D)	0	0	0	0	97	138	21	(D)	17	11,883
Other chemicals	325 (minus 3251–52, 3254)	355	(D)	95	5	150	77	83	271	23	(D)	4	(D)
Plastics and rubber products	326	821	(D)	394	(D)	278	158	123	(D)	24	725	2	(D)
Nonmetallic mineral products	327	248	846	122	13	71	26	43	(D)	11	289	1	(D)
Primary metals	331	102	624	10	1	46	24	31	(D)	15	(D)	1	(D)
Fabricated metal products	332	969	1,672	523	31	274	(D)	154	(D)	18	(D)	1	(D)
Machinery	333	1,300	6,580	572	41	375	167	275	(D)	63	(D)	14	3,533
Computer and electronic products	334	1,271	45,097	271	29	322	(D)	395	1,452	227	(D)	55	37,105
Computers and peripheral equipment	3341	124	5,162	31	3	0	0	55	225	31	931	7	4,003
Communications equipment	3342	219	11,616	0	0	67	37	91	298	52	(D)	10	(D)
Semiconductor and other electronic components	3344	494	12,894	195	23	146	45	75	288	57	(D)	21	(D)

See explanatory information and SOURCE at end of table.

Table A-5. **Total (Federal plus company and other) funds for industrial R&D performance in the U.S. and number of companies that performed R&D in the U.S., by industry and size of company, by size of total R&D program: 2000**

Industry and size of company	NAICS codes	Total number of companies	Total amount	Size of R&D program: Less than $200,000		$200,000 to $999,999		$ 1 million to $9.9 million		$ 10 million to $99.9 million		$100 million or more	
				Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]
Distribution by industry:													
Navigational, measuring, electromedical, and control instruments	3345	387	15,116	36	2	95	61	157	578	81	1,916	17	12,558
Other computer and electronic products	334 (minus 3341–42, 3344–45)	46	310	8	1	15	(D)	17	63	6	(D)	0	0
Electrical equipment, appliances, and components	335	443	(D)	95	7	196	69	117	382	31	(D)	4	(D)
Transportation equipment	336	558	30,085	185	7	159	87	152	(D)	40	(D)	22	27,996
Motor vehicles, trailers, and parts	3361–63	353	(D)	151	4	39	22	128	432	26	(D)	9	(D)
Aerospace products and parts	3364	68	10,319	0	0	49	22	4	(D)	6	(D)	9	10,022
Other transportation equipment	336 (minus 3361–64)	137	(D)	33	3	72	44	20	89	8	282	4	(D)
Furniture and related products	337	214	284	151	10	26	14	29	65	8	194	0	0
Miscellaneous manufacturing	339	528	4,206	135	7	223	109	126	(D)	38	(D)	7	2,915
Medical equipment and supplies	3391	249	(D)	39	3	86	38	86	290	33	(D)	6	(D)
Other miscellaneous manufacturing	339 (minus 3391)	279	(D)	96	4	137	71	40	(D)	5	109	1	(D)
Other manufacturing	31–33 (minus 311–16, 321–27, 331–37, 339)	--	--	--	--	--	--	--	--	--	--	--	--
Small manufacturing companies [1]	Fewer than 50 employees	9,099	2,643	6,799	354	1,600	688	700	1,600	0	0	0	0
Nonmanufacturing	21–23, 42, 44–81	18,096	75,461	7,991	421	5,590	2,937	3,527	12,123	912	26,876	76	33,104
Mining, extraction, and support activities	21	128	823	69	3	36	(D)	14	53	7	212	2	(D)
Utilities	22	99	(D)	12	1	58	17	26	(D)	3	(D)	0	0
Construction	23	78	(D)	55	1	11	6	3	15	8	(D)	0	0
Trade	42, 44, 45	2,775	24,959	1,501	107	650	364	365	(D)	237	8,347	23	(D)

See explanatory information and SOURCE at end of table.

Table A-5. **Total (Federal plus company and other) funds for industrial R&D performance in the U.S. and number of companies that performed R&D in the U.S., by industry and size of company, by size of total R&D program: 2000**

Industry and size of company	NAICS codes	Total number of companies	Total amount	Size of R&D program: Less than $200,000		$200,000 to $999,999		$ 1 million to $9.9 million		$ 10 million to $99.9 million		$100 million or more	
				Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]
Distribution by industry:													
Transportation and warehousing	48, 49	172	(D)	51	0	102	57	15	(D)	4	184	0	0
Information	51	1,081	16,830	184	18	189	101	549	(D)	132	3,909	27	(D)
Publishing	511	827	13,004	102	10	158	82	448	(D)	99	(D)	21	8,395
Newspaper, periodical, book, and database	5111	61	365	0	0	36	12	19	88	5	(D)	1	(D)
Software	5112	767	12,639	102	10	123	70	429	(D)	94	(D)	20	(D)
Broadcasting and telecommunications	513	16	(S) 1,407	0	0	0	0	3	(D)	10	(D)	3	(D)
Radio and television broadcasting	5131	1	(D)	0	0	0	0	0	0	0	0	1	(D)
Telecommunications	5133	14	(D)	0	0	0	0	3	(D)	8	(D)	2	(D)
Other broadcasting and telecommunications	513 (minus 5131, 5133)	2	59	0	0	0	0	0	0	2	59	0	0
Other information	51 (minus 511, 513)	237	2,420	82	9	31	19	98	462	22	(D)	3	(D)
Finance, insurance, and real estate	52, 53	321	4,025	50	1	202	59	16	73	48	2,634	6	1,259
Professional, scientific, and technical services	54	3,737	22,577	611	66	1,095	588	1,572	5,748	441	10,668	17	5,507
Architectural, engineering, and related services	5413	645	3,381	174	(D)	195	99	191	560	80	1,571	5	(D)
Computer systems design and related services	5415	1,509	5,169	273	(D)	568	277	556	(D)	112	(D)	1	(D)
Scientific R&D services	5417	986	12,892	15	(D)	111	72	608	2,411	241	6,160	11	(D)
Other professional, scientific, and technical services	54 (minus 5413, 5415, 5417)	596	1,135	150	22	222	140	218	(D)	7	(D)	0	0
Management of companies and enterprises	55	36	49	12	0	21	13	1	(D)	1	(D)	0	0
Health care services	621–23	536	536	254	13	206	100	57	(D)	19	(D)	0	0

See explanatory information and SOURCE at end of table.

Table A-5. **Total (Federal plus company and other) funds for industrial R&D performance in the U.S. and number of companies that performed R&D in the U.S., by industry and size of company, by size of total R&D program: 2000**

Industry and size of company	NAICS codes	Total number of companies	Total amount	Size of R&D program: Less than $200,000		$200,000 to $999,999		$ 1 million to $9.9 million		$ 10 million to $99.9 million		$100 million or more	
				Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]
Distribution by industry:													
Other nonmanufacturing	56, 61, 624, 71, 72, 81	815	731	526	7	179	87	98	(D)	11	(D)	1	(D)
Small nonmanufacturing companies [1]	Fewer than 15 employees	8,320	4,276	4,665	204	2,840	(D)	813	2,484	2	(D)	0	0
Distribution by size of company: [Number of employees]													
Total	(na)	35,273	199,539	17,947	1,001	9,470	4,708	6,088	19,883	1,547	44,923	221	129,025
5 to 24	(na)	17,062	6,862	11,177	542	4,391	2,346	1,490	3,923	3	(S) 51	0	0
25 to 49	(na)	5,141	5,008	2,298	152	1,647	829	1,112	2,950	84	1,078	0	0
50 to 99	(na)	4,687	7,259	2,123	125	1,404	590	1,003	3,353	158	3,192	0	0
100 to 249	(na)	3,880	9,020	1,574	103	1,128	452	954	3,725	224	4,740	0	0
250 to 499	(na)	1,623	7,479	475	(D)	469	(D)	487	1,923	191	4,950	2	(D)
500 to 999	(na)	1,045	9,074	122	(D)	276	(D)	402	1,280	240	6,730	5	901
1,000 to 4,999	(na)	1,277	30,636	153	18	118	65	524	(D)	421	16,047	61	(D)
5,000 to 9,999	(na)	263	16,768	21	2	20	12	65	(D)	113	(D)	44	12,669
10,000 to 24,999	(na)	180	28,653	4	(D)	15	(D)	38	(D)	73	2,525	50	(D)
25,000 or more	(na)	115	78,779	1	(D)	1	(D)	13	(D)	41	(D)	59	76,838

[1] The frame from which the statistical sample was selected was divided into two partitions based on total company employment. In the manufacturing sector, companies with employment of 50 or more were included in the large company partition. In the nonmanufacturing sector, companies with employment of 15 or more were included in the large company partition. Companies in the respective sectors with employment below these values, but with at least 5 employees, were included in the small company partition. The purpose of partitioning the sample this way was to reduce the variability in industry estimates largely attributed to the random year-to-year selection of small companies by industry and the high sampling weights that sometimes were assigned to them. Because of this, detailed industry statistics were possible only from the large company partition; detailed industry statistics from the small company partition were not possible. Statistics from the small company partition are shown separately and are included in manufacturing, nonmanufacturing, and all industries totals. For more information, see "frame creation" and "sample selection" in the technical notes in Section B.

KEY: (D) = Data have been withheld to avoid disclosing operations of individual companies.
(S) = Indicates imputation of more than 50 percent.
(--) = Indicates data not collected.
(na) = Not applicable.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-6. **Total (Federal plus company and other) funds for industrial R&D performance in the U.S. and number of companies in manufacturing and nonmanufacturing industries that performed industrial R&D in the U.S., by size of company: 2000**

Size of company [Number of employees]	Total	Manufacturing	Nonmanufacturing
	Funds for industrial R&D [In millions of dollars]		
Total	199,539	124,078	75,461
5 to 24	6,862	1,016	5,846
25 to 49	5,008	1,460	3,549
50 to 99	7,259	1,563	5,696
100 to 249	9,020	2,050	6,970
250 to 499	7,479	2,578	4,901
500 to 999	9,074	4,602	4,472
1,000 to 4,999	30,636	14,756	15,879
5,000 to 9,999	16,768	12,155	4,613
10,000 to 24,999	28,653	18,433	10,220
25,000 or more	78,779	65,465	13,314
	Number of R&D-performing companies		
Total	35,273	17,176	18,096
5 to 24	17,062	5,991	11,071
25 to 49	5,141	2,734	2,406
50 to 99	4,687	2,814	1,873
100 to 249	3,880	2,577	1,303
250 to 499	1,623	957	667
500 to 999	1,045	764	280
1,000 to 4,999	1,277	967	310
5,000 to 9,999	263	193	70
10,000 to 24,999	180	107	73
25,000 or more	115	71	44

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-7. **Company and other non-Federal funds for industrial R&D performance in the U.S., by industry and size of company: 1997–2000**

Industry and size of company	NAICS codes	1997	1998	1999 [1]	2000
		[In millions of dollars]			
Distribution by industry:					
All industries [2]	21–23, 31–33, 42, 44–81	133,611	145,016	160,176	180,421
Manufacturing	31–33	--	--	99,865	110,750
Food	311	1,244	1,305	1,132	1,145
Beverage and tobacco products	312	447	384	(D)	417
Textiles, apparel, and leather	313–16	378	399	334	266
Wood products	321	26	55	70	105
Paper, printing and support activities	322, 323	2,252	1,660	2,474	2,700
Petroleum and coal products	324	1,349	1,390	(D)	1,172
Chemicals	325	16,385	18,733	20,051	20,768
Basic chemicals	3251	1,840	3,467	2,648	2,050
Resin, synthetic rubber, fibers, and filament	3252	1,802	1,995	2,216	2,842
Pharmaceuticals and medicines	3254	10,213	9,601	12,236	12,793
Other chemicals	325 (minus 3251–52, 3254)	2,530	3,670	2,951	3,084
Plastics and rubber products	326	1,480	1,625	1,785	1,675
Nonmetallic mineral products	327	546	(D)	595	845
Primary metals	331	754	588	457	598
Fabricated metal products	332	1,854	1,727	1,608	1,631
Machinery	333	5,470	5,831	5,658	6,539
Computer and electronic products	334	29,697	31,873	29,939	39,553
Computers and peripheral equipment	3341	7,718	8,276	4,126	5,162
Communications equipment	3342	2,751	8,456	5,797	11,183
Semiconductor and other electronic components	3344	14,033	9,072	10,624	12,787
Navigational, measuring, electromedical, and control instruments	3345	4,659	5,483	8,632	10,114
Other computer and electronic products	334 (minus 3341–42, 3344–45)	537	585	760	307
Electrical equipment, appliances, and components	335	2,580	2,139	3,820	3,390
Transportation equipment	336	21,713	20,677	23,928	22,917
Motor vehicles, trailers, and parts	3361–63	14,340	13,781	17,987	18,306
Aerospace products and parts	3364	6,961	6,521	5,309	3,895
Other transportation equipment	336 (minus 3361–64)	412	375	632	716
Furniture and related products	337	240	211	248	284
Miscellaneous manufacturing	339	3,447	3,888	3,825	4,195
Medical equipment and supplies	3391	3,031	3,363	3,251	3,741
Other miscellaneous manufacturing	339 (minus 3391)	416	525	574	453
Other manufacturing [3]	31–33 minus (311–16, 321–27, 331–37, 339)	(S) 23	(D)	--	--
Small manufacturing companies [4]	Fewer than 50 employees	2,357	2,188	2,950	2,549

See explanatory information and SOURCE at end of table.

Table A-7. **Company and other non-Federal funds for industrial R&D performance in the U.S., by industry and size of company: 1997–2000**

Industry and size of company	NAICS codes	1997	1998	1999 [1]	2000
		[In millions of dollars]			
Distribution by industry:					
Nonmanufacturing	21–23, 42, 44–81	--	--	60,311	69,671
Mining, extraction, and support activities	21	447	458	2,352	822
Utilities	22	209	177	126	136
Construction	23	241	445	690	222
Trade	42, 44, 45	15,862	16,415	19,521	24,929
Transportation and warehousing	48, 49	662	253	460	277
Information	51	10,191	13,025	14,892	16,290
Publishing	511	7,535	9,522	11,253	12,926
Newspaper, periodical, book, and database	5111	340	334	371	365
Software	5112	7,194	9,188	10,882	12,561
Broadcasting and telecommunications	513	2,139	1,788	1,393	1,025
Radio and television broadcasting	5131	(D)	(D)	(D)	(D)
Telecommunications	5133	(D)	1,710	(D)	(D)
Other broadcasting and telecommunications	513 (minus 5131, 5133)	12	(D)	18	59
Other information	51 (minus 511, 513)	518	1,716	2,246	2,339
Finance, insurance, and real estate	52, 53	1,326	1,700	1,570	4,024
Professional, scientific, and technical services	54	9,380	11,440	14,379	17,949
Architectural, engineering, and related services	5413	1,152	1,405	2,402	2,232
Computer systems design and related services	5415	2,995	2,861	3,989	4,943
Scientific R&D services	5417	4,688	6,446	7,413	9,715
Other professional, scientific, and technical services	54 (minus 5413, 5415, 5417)	(S) 544	728	575	1,059
Management of companies and enterprises	55	309	417	72	49
Health care services	621–23	635	584	631	477
Other nonmanufacturing [3]	56, 61, 624, 71, 72, 81	911	2,095	640	713
Small nonmanufacturing companies [4]	Fewer than 15 employees	1,569	2,327	4,977	3,783

See explanatory information and SOURCE at end of table.

Table A-7. **Company and other non-Federal funds for industrial R&D performance in the U.S., by industry and size of company: 1997–2000**

Industry and size of company	NAICS codes	1997	1998	1999 [1]	2000
		[In millions of dollars]			
Distribution by size of company: [Number of employees]					
Total	(na)	133,611	145,016	160,176	180,421
5 to 24	(na)	2,836	4,305	6,393	5,940
25 to 49	(na)	2,745	2,857	4,382	4,786
50 to 99	(na)	3,819	5,834	6,623	6,745
100 to 249	(na)	6,606	7,494	6,540	8,351
250 to 499	(na)	5,848	6,249	7,407	6,819
500 to 999	(na)	4,590	5,132	6,441	8,580
1,000 to 4,999	(na)	19,049	20,905	23,944	29,860
5,000 to 9,999	(na)	13,655	13,517	14,182	15,143
10,000 to 24,999	(na)	20,597	23,921	24,525	27,976
25,000 or more	(na)	53,866	54,802	59,740	66,221

[1] Statistics for 1999 have been revised since originally published.

[2] The totals for "all industries" prior to 1999 are identical to corresponding totals previously published using the Standard Industrial Classification (SIC) system. Also, pre-1999 detail published using the North American Industry Classification System (NAICS) may not add to the totals. See the 'NOTES' below.

[3] Manufacturing companies in the 1997 and 1998 samples that could not be classified with a NAICS code are included in "other manufacturing;" nonmanufacturing companies that could not be classified with a NAICS code are included in "other nonmanufacturing."

[4] The frame from which the statistical sample was selected was divided into two partitions based on total company employment. In the manufacturing sector, companies with employment of 50 or more were included in the large company partition. In the nonmanufacturing sector, companies with employment of 15 or more were included in the large company partition. Companies in the respective sectors with employment below these values, but with at least 5 employees, were included in the small company partition. The purpose of partitioning the sample this way was to reduce the variability in industry estimates largely attributed to the random year-to-year selection of small companies by industry and the high sampling weights that sometimes were assigned to them. Because of this, detailed industry statistics were possible only from the large company partition; detailed industry statistics from the small company partition were not possible. Statistics from the small company partition are shown separately and are included in manufacturing, nonmanufacturing, and all industries totals. For more information, see "frame creation" and "sample selection" in the technical notes in Section B.

KEY: (D) = Data have been withheld to avoid disclosing operations of individual companies.
(S) = Indicates imputation of more than 50 percent.
(--) = Indicates data not collected.
(na) = Not applicable.

NOTES: Starting with the 1999 survey, estimates are based on the North American Industry Classification System (NAICS). In prior years, estimates were based on the Standard Industrial Classification (SIC) system. For this table, companies in the 1997 and 1998 surveys were assigned NAICS industry codes based on their SIC industry codes. Consequently, the estimates for 1997 and 1998 in this table are not necessarily representative of the NAICS categories of industries in those years. They are included for comparison purposes only.

The R&D in this table is the industrial R&D performed within company facilities funded from all sources except the Federal Government. The funds predominantly are the company's own, but also include funds from outside organizations such as other companies, research institutions, universities and colleges, nonprofit organizations, and State governments. Excluded from this table are company-funded R&D not performed within the company (e.g., R&D contracted out to other organizations) and company-funded R&D not performed in the U.S. (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations).

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-8. **Company and other non-Federal funds for industrial R&D performance in the U.S., by industry, by size of company: 2000**

Industry	NAICS codes	Total	Size of company [number of employees]									
			5 to 24	25 to 49	50 to 99	100 to 249	250 to 499	500 to 999	1,000 to 4,999	5,000 to 9,999	10,000 to 24,999	25,000 or more
		[In millions of dollars]										
Distribution by industry:												
All industries	21–23, 31–33, 42, 44–81	180,421	5,940	4,786	6,745	8,351	6,819	8,580	29,860	15,143	27,976	66,221
Manufacturing	31–33	110,750	919	1,458	1,546	1,982	2,494	4,436	14,502	11,395	17,861	54,158
Food	311	1,145	0	0	(D)	5	21	45	307	283	(D)	282
Beverage and tobacco products	312	417	0	0	0	0	0	0	27	(D)	0	(D)
Textiles, apparel, and leather	313–16	266	(D)	0	9	25	13	34	110	12	44	(D)
Wood products	321	105	0	0	0	3	2	4	(D)	(D)	(D)	0
Paper, printing and support activities	322, 323	2,700	0	0	2	8	(D)	0	73	115	(D)	(D)
Petroleum and coal products	324	1,172	0	0	0	0	(D)	43	(D)	(D)	167	(D)
Chemicals	325	20,768	0	(D)	(D)	177	190	816	2,566	3,384	7,316	6,173
Basic chemicals	3251	2,050	0	0	(D)	(D)	23	580	750	(D)	(D)	0
Resin, synthetic rubber, fibers, and filament	3252	2,842	0	0	5	0	(D)	0	317	(D)	(D)	(D)
Pharmaceuticals and medicines	3254	12,793	0	(D)	51	54	(D)	110	1,009	1,428	6,284	3,780
Other chemicals	325 (minus 3251–52, 3254)	3,084	0	0	79	(D)	82	126	490	1,316	(D)	(D)
Plastics and rubber products	326	1,675	4	2	69	74	42	282	368	203	218	414
Nonmetallic mineral products	327	845	0	0	68	(D)	29	10	137	99	113	(D)
Primary metals	331	598	0	0	(D)	0	20	78	114	(S) 88	97	(D)
Fabricated metal products	332	1,631	9	6	39	(D)	56	137	241	164	275	(D)
Machinery	333	6,539	1	41	249	320	340	402	1,583	1,497	1,039	1,067
Computer and electronic products	334	39,553	(D)	48	(D)	752	1,458	2,095	7,016	3,896	6,431	17,360
Computers and peripheral equipment	3341	5,162	0	0	98	66	191	400	598	(D)	(D)	0
Communications equipment	3342	11,183	0	31	64	134	645	430	988	(D)	(D)	(D)
Semiconductor and other electronic components	3344	12,787	(D)	(D)	187	96	354	570	3,405	841	2,501	(D)
Navigational, measuring, electromedical, and control instruments	3345	10,114	0	0	125	437	249	627	1,832	733	(D)	(D)
Other computer and electronic products	334 (minus 3341–42, 3344–45)	307	0	(D)	(D)	20	19	68	193	0	0	0
Electrical equipment, appliances, and components	335	3,390	0	0	96	158	29	193	466	117	713	(D)

See explanatory information and SOURCE at end of table.

Table A-8. **Company and other non-Federal funds for industrial R&D performance in the U.S., by industry, by size of company: 2000**

Industry	NAICS codes	Total	Size of company [number of employees]									
			5 to 24	25 to 49	50 to 99	100 to 249	250 to 499	500 to 999	1,000 to 4,999	5,000 to 9,999	10,000 to 24,999	25,000 or more
		[In millions of dollars]										
Distribution by industry:												
Transportation equipment	336	22,917	0	0	(D)	122	105	170	705	641	(D)	20,442
Motor vehicles, trailers, and parts	3361–63	18,306	0	0	11	90	68	(D)	562	350	(D)	16,710
Aerospace products and parts	3364	3,895	0	0	(D)	0	0	(D)	57	(D)	(D)	3,465
Other transportation equipment	336 (minus 3361–64)	716	0	0	3	32	37	(D)	86	(D)	(D)	267
Furniture and related products	337	284	0	0	0	10	(D)	15	39	59	(S) 124	(D)
Miscellaneous manufacturing	339	4,195	5	(D)	(D)	187	149	112	709	742	0	(D)
Medical equipment and supplies	3391	3,741	0	(D)	(D)	149	122	71	(D)	(D)	0	(D)
Other miscellaneous manufacturing	339 (minus 3391)	453	5	0	(D)	38	28	41	(D)	(D)	0	0
Other manufacturing	31–33 (minus 311–16, 321–27, 331–37, 339)	--	--	--	--	--	--	--	--	--	--	--
Small manufacturing companies [1]	Fewer than 50 employees	2,549	882	1,352	238	78	0	0	0	0	0	0
Nonmanufacturing	21–23, 42, 44–81	69,670	5,021	3,328	5,199	6,368	4,325	4,144	15,359	3,748	10,115	12,063
Mining, extraction, and support activities	21	822	(D)	0	9	0	(D)	22	46	(D)	(D)	(D)
Utilities	22	136	0	0	0	0	11	23	23	(D)	41	(D)
Construction	23	222	0	0	0	149	0	7	13	(D)	(D)	0
Trade	42, 44, 45	24,929	187	708	2,231	341	353	1,441	5,830	1,630	3,861	8,347
Transportation and warehousing	48, 49	277	(D)	0	0	13	44	11	(S) 32	(D)	(D)	(D)
Information	51	16,290	201	414	360	1,184	958	1,089	4,151	686	5,268	1,979
Publishing	511	12,926	86	414	(D)	940	643	1,044	3,843	(D)	5,021	(D)
Newspaper, periodical, book, and database	5111	365	3	7	(D)	0	102	(D)	(D)	(D)	(D)	(D)
Software	5112	12,561	82	407	(D)	940	541	(D)	(D)	(D)	(D)	0
Broadcasting and telecommunications	513	1,025	0	0	(D)	(D)	63	30	(D)	0	0	(D)
Radio and television broadcasting	5131	(D)	0	0	0	0	0	0	0	0	0	(D)
Telecommunications	5133	(D)	0	0	(D)	(D)	4	30	(D)	0	0	861
Other broadcasting and telecommunications	513 (minus 5131, 5133)	59	0	0	0	0	59	0	0	0	0	0
Other information	51 (minus 511, 513)	2,339	115	0	18	(D)	251	15	(D)	(D)	247	(D)

See explanatory information and SOURCE at end of table.

Table A-8. **Company and other non-Federal funds for industrial R&D performance in the U.S., by industry, by size of company: 2000**

Industry	NAICS codes	Total	Size of company [number of employees]									
			5 to 24	25 to 49	50 to 99	100 to 249	250 to 499	500 to 999	1,000 to 4,999	5,000 to 9,999	10,000 to 24,999	25,000 or more
		[In millions of dollars]										
Distribution by industry:												
Finance, insurance, and real estate	52, 53	4,024	24	10	24	(D)	(D)	15	2,504	(S) 354	359	698
Professional, scientific, and technical services	54	17,949	753	2,038	2,570	4,510	2,710	1,473	2,415	912	(D)	(D)
Architectural, engineering, and related services	5413	2,232	26	166	666	(D)	107	(S) 30	839	(D)	(D)	0
Computer systems design and related services	5415	4,943	114	481	602	(D)	(D)	(D)	918	187	0	(D)
Scientific R&D services	5417	9,715	485	1,186	1,292	2,538	1,666	916	624	(D)	0	(D)
Other professional, scientific, and technical services	54 (minus 5413, 5415, 5417)	1,059	128	206	9	473	(D)	(D)	33	(D)	(D)	(D)
Management of companies and enterprises	55	49	1	13	4	(D)	0	(D)	0	0	0	0
Health care services	621–23	477	58	42	0	119	15	0	217	(D)	0	(D)
Other nonmanufacturing	56, 61, 624, 71, 72, 81	713	62	103	2	0	163	(D)	128	0	54	(S) 182
Small nonmanufacturing companies [1]	Fewer than 15 employees	3,783	(D)	(D)	0	0	0	0	0	0	0	0

[1] The frame from which the statistical sample was selected was divided into two partitions based on total company employment. In the manufacturing sector, companies with employment of 50 or more were included in the large company partition. In the nonmanufacturing sector, companies with employment of 15 or more were included in the large company partition. Companies in the respective sectors with employment below these values, but with at least 5 employees, were included in the small company partition. The purpose of partitioning the sample this way was to reduce the variability in industry estimates largely attributed to the random year-to-year selection of small companies by industry and the high sampling weights that sometimes were assigned to them. Because of this, detailed industry statistics were possible only from the large company partition; detailed industry statistics from the small company partition were not possible. Statistics from the small company partition are shown separately and are included in manufacturing, nonmanufacturing, and all industries totals. Note that because companies were assigned to the "small company" partition of the sample based on preliminary information available from the sampling frame and the number of employees may have been revised during statistical processing, some companies' statistics are reported in size categories above the 50 employee threshold for manufacturing companies and the 15 employee threshold for nonmanufacturing companies. For more information, see "frame creation" and "sample selection" in the technical notes in Section B.

KEY: (D) = Data have been withheld to avoid disclosing operations of individual companies.
(S) = Indicates imputation of more than 50 percent.
(--) = Indicates data not collected.

NOTE: The R&D in this table is the industrial R&D performed within company facilities funded from all sources except the Federal Government. The funds predominantly are the company's own, but also include funds from outside organizations such as other companies, research institutions, universities and colleges, nonprofit organizations, and State governments. Excluded from this table are company-funded R&D not performed within the company (e.g., R&D contracted out to other organizations) and company-funded R&D not performed in the U.S. (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations).

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-9. **Company and other non-Federal funds for industrial R&D performance in the U.S. and number of companies that performed company and other nonfederally funded R&D in the U.S., by industry and size of company, by size of nonfederally funded R&D program: 2000**

Industry and size of company	NAICS codes	Total number of companies	Total amount	Size of nonfederally funded R&D program: Less than $200,000		$200,000 to $999,999		$ 1 million to $9.9 million		$ 10 million to $99.9 million		$100 million or more	
				Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]
Distribution by industry:													
All industries	21–23, 31–33, 42, 44–81	34,373	180,421	17,586	962	9,037	4,176	6,002	18,546	1,528	42,718	221	114,019
Manufacturing	31–33	16,917	110,750	9,805	577	3,777	1,676	2,559	7,639	632	17,464	145	83,395
Food	311	301	1,145	110	11	54	35	114	306	21	(D)	1	(D)
Beverage and tobacco products	312	7	417	0	0	0	0	3	9	3	(D)	1	(D)
Textiles, apparel, and leather	313–16	256	266	140	9	67	29	43	118	7	110	0	0
Wood products	321	40	105	16	1	16	8	5	10	3	86	0	0
Paper, printing and support activities	322, 323	292	2,700	259	11	0	0	14	80	16	464	3	2,145
Petroleum and coal products	324	44	1,172	0	0	23	11	13	48	4	99	4	1,014
Chemicals	325	684	20,768	174	14	150	77	224	572	107	3,274	29	16,830
Basic chemicals	3251	136	2,050	34	4	0	0	43	161	55	1,467	3	417
Resin, synthetic rubber, fibers, and filament	3252	58	2,842	44	5	0	0	1	(D)	8	(D)	5	2,576
Pharmaceuticals and medicines	3254	135	12,793	0	0	0	0	97	138	21	772	17	11,883
Other chemicals	325 (minus 3251–52, 3254)	355	3,084	95	5	150	77	83	(D)	23	(D)	4	1,955
Plastics and rubber products	326	820	1,675	393	31	278	158	123	(D)	24	725	2	(D)
Nonmetallic mineral products	327	248	845	122	13	71	26	43	(D)	11	289	1	(D)
Primary metals	331	102	598	10	1	46	24	31	(D)	15	279	1	(D)
Fabricated metal products	332	917	1,631	473	31	273	116	153	(D)	18	573	1	(D)
Machinery	333	1,300	6,539	572	41	375	167	275	1,129	63	1,703	14	3,499
Computer and electronic products	334	1,266	39,553	271	29	320	149	395	1,382	225	5,969	55	32,023
Computers and peripheral equipment	3341	124	5,162	31	3	0	0	55	225	31	931	7	4,003
Communications equipment	3342	218	11,183	0	0	67	37	91	298	51	1,429	10	9,419
Semiconductor and other electronic components	3344	493	12,787	195	23	146	45	75	288	56	1,623	21	10,807

See explanatory information and SOURCE at end of table.

Table A-9. **Company and other non-Federal funds for industrial R&D performance in the U.S. and number of companies that performed company and other nonfederally funded R&D in the U.S., by industry and size of company, by size of nonfederally funded R&D program: 2000**

Industry and size of company	NAICS codes	Total number of companies	Total amount	Size of nonfederally funded R&D program: Less than $200,000		$200,000 to $999,999		$ 1 million to $9.9 million		$ 10 million to $99.9 million		$100 million or more	
				Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]
Distribution by industry:													
Navigational, measuring, electromedical, and control instruments	3345	387	10,114	36	2	95	61	157	508	81	1,749	17	7,794
Other computer and electronic products	334 (minus 3341–42, 3344–45)	43	307	8	1	12	7	17	63	6	237	0	0
Electrical equipment, appliances, and components	335	443	3,390	95	7	196	69	117	373	31	875	4	2,067
Transportation equipment	336	556	22,917	185	7	159	87	151	(D)	39	(D)	22	20,950
Motor vehicles, trailers, and parts	3361–63	353	18,306	151	4	39	22	128	432	26	899	9	16,950
Aerospace products and parts	3364	67	3,895	0	0	49	22	3	(D)	6	(D)	9	3,655
Other transportation equipment	336 (minus 3361–64)	136	716	33	3	72	44	20	89	7	235	4	346
Furniture and related products	337	214	284	151	10	26	14	29	65	8	194	0	0
Miscellaneous manufacturing	339	528	4,195	135	7	223	109	126	(D)	38	(D)	7	2,915
Medical equipment and supplies	3391	249	3,741	39	3	86	38	86	288	33	(D)	6	(D)
Other miscellaneous manufacturing	339 (minus 3391)	279	453	96	4	137	71	40	(D)	5	109	1	(D)
Other manufacturing	31–33 (minus 311–16, 321–27, 331–37, 339)	--	--	--	--	--	--	--	--	--	--	--	--
Small manufacturing companies [1]	Fewer than 50 employees	8,899	2,549	6,699	352	1,500	597	700	1,600	0	0	0	0
Nonmanufacturing	21–23, 42, 44–81	17,456	69,671	7,781	386	5,260	2,500	3,443	10,907	896	25,254	76	30,624
Mining, extraction, and support activities	21	128	822	69	3	36	(D)	14	53	7	212	2	(D)
Utilities	22	99	136	12	1	58	17	26	85	3	34	0	0
Construction	23	78	222	55	1	11	6	3	15	8	201	0	0
Trade	42, 44, 45	2,775	24,929	1,501	107	650	364	365	1,133	237	8,329	23	14,995
Transportation and warehousing	48, 49	172	277	51	0	102	57	15	36	4	184	0	0

See explanatory information and SOURCE at end of table.

Table A-9. **Company and other non-Federal funds for industrial R&D performance in the U.S. and number of companies that performed company and other nonfederally funded R&D in the U.S., by industry and size of company, by size of nonfederally funded R&D program: 2000**

Industry and size of company	NAICS codes	Total number of companies	Total amount	Size of nonfederally funded R&D program: Less than $200,000		$200,000 to $999,999		$ 1 million to $9.9 million		$ 10 million to $99.9 million		$100 million or more	
				Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]
Distribution by industry:													
Information	51	1,077	16,290	184	18	189	101	546	2,056	131	3,797	27	10,317
Publishing	511	824	12,926	102	10	158	82	445	1,582	99	2,857	21	8,395
Newspaper, periodical, book, and database	5111	61	365	0	0	36	12	19	88	5	(D)	1	(D)
Software	5112	763	12,561	102	10	123	70	426	1,494	94	(D)	20	(D)
Broadcasting and telecommunications	513	15	1,025	0	0	0	0	3	11	9	(D)	3	(D)
Radio and television broadcasting	5131	1	(D)	0	0	0	0	0	0	0	0	1	(D)
Telecommunications	5133	13	(D)	0	0	0	0	3	11	7	297	2	(D)
Other broadcasting and telecommunications	513 (minus 5131, 5133)	2	59	0	0	0	0	0	0	2	59	0	0
Other information	51 (minus 511, 513)	237	2,339	82	9	31	19	98	462	22	(D)	3	(D)
Finance, insurance, and real estate	52, 53	321	4,024	50	1	202	59	16	72	48	2,634	6	1,259
Professional, scientific, and technical services	54	3,558	17,949	603	66	1,018	475	1,493	4,775	426	9,227	17	3,406
Architectural, engineering, and related services	5413	612	2,232	167	12	186	76	179	310	75	1,087	5	748
Computer systems design and related services	5415	1,489	4,943	272	(D)	564	270	541	1,959	111	2,564	1	(D)
Scientific R&D services	5417	912	9,715	15	(D)	97	40	557	1,793	232	5,343	11	(D)
Other professional, scientific, and technical services	54 (minus 5413, 5415, 5417)	545	1,059	150	22	172	90	217	714	7	233	0	0
Management of companies and enterprises	55	36	49	12	0	21	13	1	(D)	1	(D)	0	0
Health care services	621–23	485	477	254	13	156	73	56	174	19	217	0	0
Other nonmanufacturing	56, 61, 624, 71, 72, 81	814	713	526	7	179	87	97	(D)	11	338	1	(D)
Small nonmanufacturing companies [1]	Fewer than 15 employees	7,915	3,783	4,462	170	2,637	(D)	813	2,322	2	(D)	0	0

See explanatory information and SOURCE at end of table.

Table A-9. **Company and other non-Federal funds for industrial R&D performance in the U.S. and number of companies that performed company and other nonfederally funded R&D in the U.S., by industry and size of company, by size of nonfederally funded R&D program: 2000**

Industry and size of company	NAICS codes	Total number of companies	Total amount	Size of nonfederally funded R&D program: Less than $200,000		$200,000 to $999,999		$ 1 million to $9.9 million		$ 10 million to $99.9 million		$100 million or more	
				Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]
Distribution by size of company: [Number of employees]													
Total	(na)	34,373	180,421	17,586	962	9,037	4,176	6,002	18,546	1,528	42,718	221	114,019
5 to 24	(na)	16,473	5,940	10,975	507	4,019	1,852	1,476	3,530	3	(S) 51	0	0
25 to 49	(na)	5,019	4,786	2,197	150	1,647	815	1,091	2,769	84	1,053	0	0
50 to 99	(na)	4,545	6,745	2,073	125	1,347	568	971	2,992	154	3,061	0	0
100 to 249	(na)	3,862	8,351	1,574	103	1,124	450	944	3,405	221	4,393	0	0
250 to 499	(na)	1,604	6,819	467	(D)	469	258	481	1,863	186	4,351	2	(D)
500 to 999	(na)	1,038	8,580	122	16	276	147	399	1,272	236	6,244	5	901
1,000 to 4,999	(na)	1,275	29,860	153	18	118	65	524	2,146	419	15,610	61	12,021
5,000 to 9,999	(na)	263	15,143	21	2	20	12	65	322	113	3,671	44	11,135
10,000 to 24,999	(na)	179	27,976	4	(D)	15	(D)	38	159	72	2,449	50	(D)
25,000 or more	(na)	115	66,221	1	(D)	1	(D)	13	88	41	1,834	59	64,297

[1] The frame from which the statistical sample was selected was divided into two partitions based on total company employment. In the manufacturing sector, companies with employment of 50 or more were included in the large company partition. In the nonmanufacturing sector, companies with employment of 15 or more were included company partition. Companies in the respective sectors with employment below these values, but with at least 5 employees, were included in the small company partition. The purpose of partitioning the sample this way was to reduce the variability in industry estimates largely attributed to the random year-to-year selection of small companies by industry and the high sampling weights that sometimes were assigned to them. Because of this, detailed industry statistics were possible only from the large company partition; detailed industry statistics from the small company partition were not possible. Statistics from the small company partition are shown separately and are included in manufacturing, nonmanufacturing, and all industries totals. For more information, see "frame creation" and "sample selection" in the technical notes in Section B.

KEY: (D) = Data have been withheld to avoid disclosing operations of individual companies.
(S) = Indicates imputation of more than 50 percent.
(--) = Indicates data not collected.
(na) = Not applicable.

NOTE: The R&D in this table is the industrial R&D performed within company facilities funded from all sources except the Federal Government. The funds predominantly are the company's own, but also include funds from outside organizations such as other companies, research institutions, universities and colleges, nonprofit organizations, and State governments. Excluded from this table are company-funded R&D not performed within the company (e.g., R&D contracted out to other organizations) and company-funded R&D not performed in the U.S. (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations).

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-10. **Company and other non-Federal funds for industrial R&D performance in the U.S. contracted to outside organizations and number of R&D-performing companies that contracted out performance of company-funded R&D, by industry and size of company: 1997–2000**

Industry and size of company	NAICS codes	1997		1998		1999 [1]		2000	
		Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]
Distribution by industry:									
All industries [2]	21–23, 31–33, 42, 44–81	3,342	6,000	3,053	6,710	4,243	9,240	3,832	14,785
Manufacturing	31–33	--	--	--	--	1,720	4,080	1,716	4,794
Food	311	133	21	26	19	82	13	39	25
Beverage and tobacco products	312	1	(D)	1	(D)	1	(D)	1	(D)
Textiles, apparel, and leather	313–16	38	10	15	2	73	5	16	5
Wood products	321	6	(S) 7	1	(D)	6	(D)	7	(D)
Paper, printing and support activities	322, 323	13	(D)	33	10	6	(D)	15	(D)
Petroleum and coal products	324	21	(D)	51	21	2	(D)	13	(D)
Chemicals	325	110	1,886	176	2,181	167	2,386	52	2,783
Basic Chemicals	3251	9	8	57	16	16	(D)	10	(D)
Resin, synthetic rubber, fibers, and filament	3252	5	36	6	28	4	(D)	2	(D)
Pharmaceuticals and medicines	3254	72	1,798	67	1,861	14	2,274	14	2,658
Other chemicals	325 (minus 3251–52, 3254)	24	44	45	276	132	57	26	54
Plastics and rubber products	326	74	34	78	39	21	33	33	24
Nonmetallic mineral products	327	8	(D)	11	(D)	52	10	23	3
Primary metals	331	15	8	45	81	10	2	10	2
Fabricated metal products	332	145	59	149	13	49	10	105	21
Machinery	333	74	126	236	161	173	151	137	355
Computer and electronic products	334	260	326	164	319	104	101	181	168
Computers and peripheral equipment	3341	7	54	15	64	9	24	9	44
Communications equipment	3342	58	(D)	8	(D)	4	(D)	21	(D)
Semiconductor and other electronic components	3344	125	180	91	61	76	33	58	(D)

See explanatory information and SOURCE at end of table.

Table A-10. **Company and other non-Federal funds for industrial R&D performance in the U.S. contracted to outside organizations and number of R&D-performing companies that contracted out performance of company-funded R&D, by industry and size of company: 1997–2000**

Industry and size of company	NAICS codes	1997		1998		1999 [1]		2000	
		Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]
Distribution by industry:									
Navigational, measuring, electromedical, and control instruments	3345	66	29	45	28	15	12	87	31
Other computer and electronic products	334 (minus 3341–42, 3344–45)	5	(D)	6	(D)	1	(D)	5	2
Electrical equipment, appliances, and components	335	68	7	11	3	42	(D)	50	84
Transportation equipment	336	69	792	18	919	64	812	31	771
Motor vehicles, trailers, and parts	3361–63	62	(D)	10	(D)	54	(D)	26	(D)
Aerospace products and parts	3364	6	(D)	7	148	4	80	3	(D)
Other transportation equipment	336 (minus 3361–64)	1	(D)	1	(D)	5	(D)	2	(D)
Furniture and related products	337	1	(D)	2	(D)	13	1	1	(D)
Miscellaneous manufacturing	339	62	43	50	15	56	18	103	34
Medical equipment and supplies	3391	58	42	17	14	25	8	44	27
Other miscellaneous manufacturing	339 (minus 3391)	4	1	33	1	31	10	59	7
Other manufacturing [3]	31–33 (minus 311–16, 321–27, 331–37, 339)	2	(D)	3	(D)	--	--	--	--
Small manufacturing companies [4]	Fewer than 50 employees	857	116	671	30	800	181	900	237
Nonmanufacturing	21–23, 42, 44–81	--	--	--	--	2,523	5,160	2,116	9,991
Mining, extraction, and support activities	21	8	16	5	(D)	4	6	4	(D)
Utilities	22	68	199	90	165	39	227	34	286
Construction	23	52	8	1	(D)	1	(D)	2	(D)
Trade	42, 44, 45	235	869	296	951	479	1,805	613	6,713
Transportation and warehousing	48, 49	103	70	8	10	12	8	58	54

See explanatory information and SOURCE at end of table.

Table A-10. **Company and other non-Federal funds for industrial R&D performance in the U.S. contracted to outside organizations and number of R&D-performing companies that contracted out performance of company-funded R&D, by industry and size of company: 1997–2000**

Industry and size of company	NAICS codes	1997		1998		1999 [1]		2000	
		Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]
Distribution by industry:									
Information	51	199	295	139	336	165	504	225	597
Publishing	511	134	132	134	163	141	(D)	156	161
Newspaper, periodical, book, and database	5111	4	12	9	25	2	(D)	3	4
Software	5112	130	119	125	138	139	181	153	157
Broadcasting and telecommunications	513	52	(D)	4	(D)	10	(D)	4	(D)
Radio and television broadcasting	5131	0	0	0	0	0	0	0	0
Telecommunications	5133	52	(D)	4	(D)	3	(D)	4	(D)
Other broadcasting and telecommunications	513 (minus 5131, 5133)	0	0	0	0	7	0	0	0
Other information	51 (minus 511, 513)	13	(D)	1	(D)	15	69	66	(D)
Finance, insurance, and real estate	52, 53	130	183	125	305	66	328	38	765
Professional, scientific, and technical services	54	422	513	383	772	394	957	469	1,200
Architectural, engineering, and related services	5413	42	11	11	9	137	(D)	161	150
Computer systems design and related services	5415	116	44	179	77	79	51	84	119
Scientific R&D services	5417	158	431	171	646	174	832	164	907
Other professional, scientific, and technical services	54 (minus 5413, 5415, 5417)	106	26	22	41	4	(D)	60	24
Management of companies and enterprises	55	2	(D)	0	0	2	(D)	4	1
Health care services	621–23	5	(D)	7	(D)	3	(D)	56	12
Other nonmanufacturing [3]	56, 61, 624, 71, 72, 81	110	8	18	38	108	6	4	2
Small nonmanufacturing companies [4]	Fewer than 15 employees	51	18	240	13	1,250	1,112	609	334

See explanatory information and SOURCE at end of table.

Table A-10. **Company and other non-Federal funds for industrial R&D performance in the U.S. contracted to outside organizations and number of R&D-performing companies that contracted out performance of company-funded R&D, by industry and size of company: 1997–2000**

Industry and size of company	NAICS codes	1997		1998		1999 [1]		2000	
		Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]
Distribution by size of company: [Number of employees]									
Total	(na)	3,342	6,000	3,053	6,710	4,243	9,240	3,832	14,785
5 to 24	(na)	935	70	673	40	1,938	1,214	1,469	494
25 to 49	(na)	583	175	707	305	760	233	803	705
50 to 99	(na)	407	201	426	201	543	319	530	433
100 to 249	(na)	494	230	553	184	423	292	259	295
250 to 499	(na)	310	123	198	275	196	148	229	237
500 to 999	(na)	151	220	169	138	85	94	186	111
1,000 to 4,999	(na)	227	984	191	1,214	167	1,168	223	6,347
5,000 to 9,999	(na)	111	992	65	589	61	1,087	64	986
10,000 to 24,999	(na)	48	1,031	44	1,318	38	1,557	37	2,535
25,000 or more	(na)	75	1,974	27	2,446	33	3,128	32	2,642

[1] Some statistics for 1999 have been revised since originally published.

[2] The totals for "all industries" prior to 1999 are identical to corresponding totals previously published using the Standard Industrial Classification (SIC) system. Also, pre-1999 detail published using the North American Industry Classification System (NAICS) may not add to the totals. See the 'NOTES' below.

[3] Manufacturing companies in the 1997 and 1998 samples that could not be classified with a NAICS code are included in "other manufacturing;" nonmanufacturing companies that could not be classified with a NAICS code are included in "other nonmanufacturing."

[4] The frame from which the statistical sample was selected was divided into two partitions based on total company employment. In the manufacturing sector, companies with employment of 50 or more were included in the large company partition. In the nonmanufacturing sector, companies with employment of 15 or more were included in the large company partition. Companies in the respective sectors with employment below these values, but with at least 5 employees, were included in the small company partition. The purpose of partitioning the sample this way was to reduce the variability in industry estimates largely attributed to the random year-to-year selection of small companies by industry and the high sampling weights that sometimes were assigned to them. Because of this, detailed industry statistics were possible only from the large company partition; detailed industry statistics from the small company partition were not possible. Statistics from the small company partition are shown separately and are included in manufacturing, nonmanufacturing, and all industries totals. For more information, see "frame creation" and "sample selection" in the technical notes in Section B.

KEY: (D) = Data have been withheld to avoid disclosing operations of individual companies.
(S) = Indicates imputation of more than 50 percent.
(--) = Indicates data not collected.
(na) = Not applicable.

NOTES: Starting with the 1999 survey, estimates are based on the North American Industry Classification System (NAICS). In prior years, estimates were based on the Standard Industrial Classification (SIC) system. For this table, companies in the 1997 and 1998 surveys were assigned NAICS industry codes based on their SIC industry codes. Consequently, the estimates for 1997 and 1998 in this table are not necessarily representative of the NAICS categories of industries in those years. They are included for comparison purposes only.

The R&D in this table is the industrial R&D performed outside company facilities funded from all sources except the Federal Government. The funds predominantly are the company's own, but also include funds from outside organizations such as other companies, research institutions, universities and colleges, nonprofit organizations, and State governments. Excluded from this table is company-funded R&D not performed in the U.S. (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations).

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-11. **Company and other non-Federal funds for industrial R&D performance outside of the U.S. and number of companies with subsidiaries that performed industrial R&D both within and outside of the U.S., by industry and size of company: 1997–2000**

Industry and size of company	NAICS codes	1997		1998		1999 [1]		2000	
		Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]
Distribution by industry:									
All industries [2]	21–23, 31–33, 42, 44–81	1,120	13,107	1,972	16,008	1,260	16,765	1,718	17,463
Manufacturing	31–33	--	--	--	--	747	12,354	572	12,252
Food	311	18	104	11	131	9	87	16	(S) 95
Beverage and tobacco products	312	1	(D)	1	(D)	1	(D)	1	(D)
Textiles, apparel, and leather	313–16	4	8	11	11	7	(D)	15	(D)
Wood products	321	2	0	0	0	1	(D)	0	0
Paper, printing and support activities	322, 323	11	(D)	12	51	11	(D)	9	(D)
Petroleum and coal products	324	5	63	4	20	3	(D)	3	9
Chemicals	325	67	2,609	110	2,635	105	3,243	94	3,578
Basic chemicals	3251	19	(D)	16	(D)	15	(D)	40	256
Resin, synthetic rubber, fibers, and filament	3252	4	(D)	7	(D)	7	(D)	4	(D)
Pharmaceuticals and medicines	3254	20	2,125	67	1,591	64	2,832	20	3,030
Other chemicals	325 (minus 3251–52, 3254)	24	191	21	678	18	95	30	(D)
Plastics and rubber products	326	50	186	26	188	42	172	23	168
Nonmetallic mineral products	327	14	19	8	47	5	40	14	40
Primary metals	331	7	10	16	23	5	7	3	(D)
Fabricated metal products	332	31	94	42	138	42	75	32	65
Machinery	333	84	609	93	741	70	707	86	736
Computer and electronic products	334	123	1,884	133	1,585	177	1,902	178	1,705
Computers and peripheral equipment	3341	14	(S) 343	18	424	12	289	25	(D)
Communications equipment	3342	21	346	22	478	22	(D)	33	377
Semiconductor and other electronic components	3344	32	937	42	(D)	98	302	34	327

See explanatory information and SOURCE at end of table.

Table A-11. **Company and other non-Federal funds for industrial R&D performance outside of the U.S. and number of companies with subsidiaries that performed industrial R&D both within and outside of the U.S., by industry and size of company: 1997–2000**

Industry and size of company	NAICS codes	1997		1998		1999 [1]		2000	
		Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]
Distribution by industry:									
Navigational, measuring, electromedical, and control instruments	3345	54	(D)	49	375	42	1,112	85	679
Other computer and electronic products	334 (minus 3341–42, 3344–45)	2	(D)	2	(D)	2	(D)	1	(D)
Electrical equipment, appliances, and components	335	48	221	73	109	33	433	20	455
Transportation equipment	336	31	3,203	27	4,273	90	3,933	27	3,640
Motor vehicles, trailers, and parts	3361–63	20	(D)	16	(D)	64	(D)	21	(D)
Aerospace products and parts	3364	6	198	6	335	6	(D)	3	(D)
Other transportation equipment	336 (minus 3361–64)	5	(D)	5	(D)	20	17	3	(D)
Furniture and related products	337	2	(D)	2	(D)	2	(D)	5	(D)
Miscellaneous manufacturing	339	36	896	32	790	47	963	47	942
Medical equipment and supplies	3391	26	(D)	24	(D)	38	(D)	26	(D)
Other miscellaneous manufacturing	339 (minus 3391)	10	(D)	8	(D)	8	(D)	21	(D)
Other manufacturing [3]	31–33 (minus 311–16, 321–27, 331–37, 339)	1	(D)	2	(D)	--	--	--	--
Small manufacturing companies [4]	Fewer than 50 employees	1	(D)	190	3	100	20	0	0
Nonmanufacturing	21–23, 42, 44–81	--	--	--	--	513	4,411	1,146	5,211
Mining, extraction, and support activities	21	6	36	6	59	52	48	6	43
Utilities	22	1	(D)	1	(D)	0	0	0	0

See explanatory information and SOURCE at end of table.

Table A-11. **Company and other non-Federal funds for industrial R&D performance outside of the U.S. and number of companies with subsidiaries that performed industrial R&D both within and outside of the U.S., by industry and size of company: 1997–2000**

Industry and size of company	NAICS codes	1997		1998		1999 [1]		2000	
		Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]
Distribution by industry:									
Construction	23	2	(D)	4	18	1	(D)	1	(D)
Trade	42, 44, 45	103	1,639	242	3,157	93	2,356	345	2,244
Transportation and warehousing	48, 49	0	0	1	(D)	0	0	0	0
Information	51	97	709	136	1,322	108	1,379	135	1,564
Publishing	511	87	(D)	127	(D)	101	637	118	940
Newspaper, periodical, book, and database	5111	1	(D)	1	(D)	0	0	2	(D)
Software	5112	86	625	126	675	101	637	116	(D)
Broadcasting and telecommunications	513	2	(D)	2	(D)	1	(D)	1	(D)
Radio and television broadcasting	5131	0	0	0	0	0	0	0	0
Telecommunications	5133	2	(D)	2	(D)	1	(D)	1	(D)
Other broadcasting and telecommunications	513 (minus 5131, 5133)	0	0	0	0	0	0	0	0
Other information	51 (minus 511, 513)	9	57	7	(D)	6	(D)	16	(D)
Finance, insurance, and real estate	52, 53	3	(D)	4	(D)	3	(D)	4	(D)
Professional, scientific, and technical services	54	115	164	243	384	196	523	236	904
Architectural, engineering, and related services	5413	8	11	7	(D)	47	(D)	54	371
Computer systems design and related services	5415	52	63	145	105	67	146	101	(D)
Scientific R&D services	5417	51	67	89	258	81	287	80	292

See explanatory information and SOURCE at end of table.

Table A-11. **Company and other non-Federal funds for industrial R&D performance outside of the U.S. and number of companies with subsidiaries that performed industrial R&D both within and outside of the U.S., by industry and size of company: 1997–2000**

Industry and size of company	NAICS codes	1997		1998		1999 [1]		2000	
		Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]
Distribution by industry:									
Other professional, scientific, and technical services	54 (minus 5413, 5415, 5417)	3	23	1	(D)	1	(D)	1	(D)
Management of companies and enterprises	55	2	(D)	0	0	2	18	5	(D)
Health care services	621–23	2	(D)	2	(D)	2	(D)	1	(D)
Other nonmanufacturing [3]	56, 61, 624, 71, 72, 81	10	(S) 61	60	141	55	14	7	(S) 75
Small nonmanufacturing companies [4]	Fewer than 15 employees	242	22	481	54	2	(D)	406	330
Distribution by size of company: [Number of employees]									
Total	(na)	1,120	13,107	1,972	16,008	1,260	16,765	1,718	17,463
5 to 24	(na)	243	33	583	65	46	1	484	352
25 to 49	(na)	6	2	321	141	51	14	86	37
50 to 99	(na)	157	68	163	45	231	117	188	455
100 to 249	(na)	129	108	226	258	264	140	246	421
250 to 499	(na)	93	114	126	159	144	243	132	162
500 to 999	(na)	83	205	131	172	156	860	188	532
1,000 to 4,999	(na)	236	2,057	242	2,080	204	2,099	228	2,238
5,000 to 9,999	(na)	79	1,352	86	1,009	81	1,188	74	1,352
10,000 to 24,999	(na)	57	2,632	56	3,381	48	2,965	49	3,626
25,000 or more	(na)	36	6,537	38	8,700	35	9,138	42	8,288

See explanatory information and SOURCE at end of table.

Table A-11. **Company and other non-Federal funds for industrial R&D performance outside of the U.S. and number of companies with subsidiaries that performed industrial R&D both within and outside of the U.S., by industry and size of company: 1997–2000**

[1] Some statistics for 1999 have been revised since originally published.

[2] The totals for "all industries" prior to 1999 are identical to corresponding totals previously published using the Standard Industrial Classification (SIC) system. Also, pre-1999 detail published using the North American Industry Classification System (NAICS) may not add to the totals. See the 'NOTES' below.

[3] Manufacturing companies in the 1997 and 1998 samples that could not be classified with a NAICS code are included in "other manufacturing;" nonmanufacturing companies that could not be classified with a NAICS code are included in "other nonmanufacturing."

[4] The frame from which the statistical sample was selected was divided into two partitions based on total company employment. In the manufacturing sector, companies with employment of 50 or more were included in the large company partition. In the nonmanufacturing sector, companies with employment of 15 or more were included in the large company partition. Companies in the respective sectors with employment below these values, but with at least 5 employees, were included in the small company partition. The purpose of partitioning the sample this way was to reduce the variability in industry estimates largely attributed to the random year-to-year selection of small companies by industry and the high sampling weights that sometimes were assigned to them. Because of this, detailed industry statistics were possible only from the large company partition; detailed industry statistics from the small company partition were not possible. Statistics from the small company partition are shown separately and are included in manufacturing, nonmanufacturing, and all industries totals. For more information, see "frame creation" and "sample selection" in the technical notes in Section B.

KEY: (D) = Data have been withheld to avoid disclosing operations of individual companies.
(S) = Indicates imputation of more than 50 percent.
(--) = Indicates data not collected.
(na) = Not applicable.

NOTES: Starting with the 1999 survey, estimates are based on the North American Industry Classification System (NAICS). In prior years, estimates were based on the Standard Industrial Classification (SIC) system. For this table, companies in the 1997 and 1998 surveys were assigned NAICS industry codes based on their SIC industry codes. Consequently, the estimates for 1997 and 1998 in this table are not necessarily representative of the NAICS categories of industries in those years. They are included for comparison purposes only.

The R&D in this table is the industrial R&D performed outside the U.S. by a company's foreign subsidiaries or other foreign organizations funded from all sources except the Federal Government. The funds predominantly are the company's own, but also include funds from outside organizations such as other companies, research institutions, universities and colleges, nonprofit organizations, and State governments. Excluded from this table is company-funded R&D performed in the U.S. (e.g., R&D performed on U.S. soil by foreign subsidiaries or other foreign organizations).

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-12. **Company and other non-Federal funds for industrial R&D performance outside of the U.S. and number of companies with subsidiaries that performed industrial R&D both within and outside of the U.S., by location of R&D performance (country): 2000**

Location of R&D performance (country)	Number of companies [1]	Total [In millions of dollars]
Distribution by country:		
Total	1,718	17,462
Canada	127	1,362
Germany	124	1,846
France	106	950
Japan	80	1,053
United Kingdom	203	1,395
Puerto Rico	19	194
Other countries	238	2,840
Undistributed [2]	1,422	7,820

[1] Detail does not add to total because categories are not mutually exclusive.

[2] Includes data reported on Form RD-1 that were not allocated to a specific country, and total foreign R&D reported on Form RD-1A. Form RD-1A does not collect data by country.

NOTES: Data are reported in current U.S. dollars.

The R&D in this table is the industrial R&D performed outside the U.S. by a company's foreign subsidiaries or other foreign organizations funded from all sources except the Federal Government. The funds predominantly are the company's own, but also include funds from outside organizations such as other companies, research institutions, universities and colleges, nonprofit organizations, and State governments Excluded from this table is company-funded R&D performed in the U.S. (e.g., R&D performed on U.S. soil by foreign subsidiaries or other foreign organizations).

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-13. **Federal funds for industrial R&D performance in the U.S., by industry and size of company: 1997–2000**

Industry and size of company	NAICS codes	1997	1998	1999 [1]	2000
		[In millions of dollars]			
Distribution by industry:					
All industries [2]	21–23, 31–33, 42, 44–81	23,928	24,164	22,535	19,118
Manufacturing	31–33	--	--	17,055	13,328
Food	311	0	0	0	(D)
Beverage and tobacco products	312	0	0	0	0
Textiles, apparel, and leather	313–16	0	0	0	(D)
Wood products	321	0	5	0	0
Paper, printing and support activities	322, 323	(D)	(D)	(D)	(D)
Petroleum and coal products	324	(D)	5	(D)	(D)
Chemicals	325	107	236	194	150
Basic chemicals	3251	19	143	98	31
Resin, synthetic rubber, fibers, and filament	3252	(D)	(D)	(D)	11
Pharmaceuticals and medicines	3254	(D)	(D)	(D)	(D)
Other chemicals	325 (minus 3251–52, 3254)	(D)	(D)	(D)	(D)
Plastics and rubber products	326	(S) 4	0	0	(D)
Nonmetallic mineral products	327	2	(D)	(D)	1
Primary metals	331	238	(D)	12	(S) 26
Fabricated metal products	332	53	54	46	41
Machinery	333	141	(D)	(S) 399	41
Computer and electronic products	334	4,291	6,336	5,993	5,544
Computers and peripheral equipment	3341	(D)	(D)	(D)	0
Communications equipment	3342	180	518	206	432
Semiconductor and other electronic components	3344	(D)	59	77	107
Navigational, measuring, electromedical, and control instruments	3345	3,371	5,749	5,705	5,002
Other computer and electronic products	334 (minus 3341–42, 3344–45)	6	(D)	(D)	3
Electrical equipment, appliances, and components	335	160	141	(D)	(D)
Transportation equipment	336	12,709	10,682	10,037	7,168
Motor vehicles, trailers, and parts	3361–63	(D)	(D)	(D)	(D)
Aerospace products and parts	3364	10,904	9,838	9,117	6,424
Other transportation equipment	336 (minus 3361–64)	(D)	(D)	(D)	(D)
Furniture and related products	337	0	0	0	0
Miscellaneous manufacturing	339	10	(D)	26	12
Medical equipment and supplies	3391	10	(D)	(D)	(D)
Other miscellaneous manufacturing	339 (minus 3391)	0	0	(D)	(D)
Other manufacturing [3]	31–33 (minus 311–16, 321–27, 331–37, 339)	--	--	--	--
Small manufacturing companies [4]	Fewer than 50 employees	151	128	69	93

See explanatory information and SOURCE at end of table.

Table A-13. **Federal funds for industrial R&D performance in the U.S., by industry and size of company: 1997–2000**

Industry and size of company	NAICS codes	1997	1998	1999 [1]	2000
		[In millions of dollars]			
Distribution by industry:					
Nonmanufacturing	21–23, 42, 44–81	--	--	5,479	5,790
Mining, extraction, and support activities	21	(D)	(D)	(D)	1
Utilities	22	(D)	(D)	17	(D)
Construction	23	1	(D)	2	(D)
Trade	42, 44, 45	(D)	(S) 77	95	30
Transportation and warehousing	48, 49	(D)	0	0	(D)
Information	51	404	556	497	(S) 540
Publishing	511	47	67	49	78
Newspaper, periodical, book, and database	5111	0	0	0	0
Software	5112	47	67	49	78
Broadcasting and telecommunications	513	(D)	(D)	(D)	(S) 382
Radio and television broadcasting	5131	(D)	(D)	(D)	(D)
Telecommunications	5133	(D)	(D)	(D)	(D)
Other broadcasting and telecommunications	513 (minus 5131, 5133)	0	0	13	0
Other information	51 (minus 511, 513)	(D)	(D)	(D)	81
Finance, insurance, and real estate	52, 53	(D)	(D)	(D)	0
Professional, scientific, and technical services	54	3,620	4,728	4,615	4,628
Architectural, engineering, and related services	5413	1,058	1,775	1,177	1,149
Computer systems design and related services	5415	(D)	(D)	(D)	226
Scientific R&D services	5417	(S) 2,334	(S) 2,615	3,057	3,177
Other professional, scientific, and technical services	54 (minus 5413, 5415, 5417)	(D)	(D)	(D)	77
Management of companies and enterprises	55	0	0	(D)	0
Health care services	621–23	4	32	10	59
Other nonmanufacturing [3]	56, 61, 624, 71, 72, 81	42	29	(D)	18
Small nonmanufacturing companies [4]	Fewer than 15 employees	(D)	522	227	494

See explanatory information and SOURCE at end of table.

Table A-13. **Federal funds for industrial R&D performance in the U.S., by industry and size of company: 1997–2000**

Industry and size of company	NAICS codes	1997	1998	1999 [1]	2000
		[In millions of dollars]			
Distribution by size of company: [Number of employees]					
Total	(na)	23,928	24,164	22,535	19,118
5 to 24	(na)	468	638	611	922
25 to 49	(na)	283	466	368	222
50 to 99	(na)	431	581	603	514
100 to 249	(na)	572	1,186	674	669
250 to 499	(na)	456	565	485	660
500 to 999	(na)	376	363	591	495
1,000 to 4,999	(na)	540	620	896	775
5,000 to 9,999	(na)	612	536	2,194	1,625
10,000 to 24,999	(na)	913	(S) 955	397	678
25,000 or more	(na)	19,277	18,253	15,717	12,559

[1] Some statistics for 1999 have been revised since originally published.

[2] The totals for "all industries" prior to 1999 are identical to corresponding totals previously published using the Standard Industrial Classification (SIC) system. Also, pre-1999 detail published using the North American Industry Classification System (NAICS) may not add to the totals. See the 'NOTES' below.

[3] Manufacturing companies in the 1997 and 1998 samples that could not be classified with a NAICS code are included in "other manufacturing;" nonmanufacturing companies that could not be classified with a NAICS code are included in "other nonmanufacturing."

[4] The frame from which the statistical sample was selected was divided into two partitions based on total company employment. In the manufacturing sector, companies with employment of 50 or more were included in the large company partition. In the nonmanufacturing sector, companies with employment of 15 or more were included in the large company partition. Companies in the respective sectors with employment below these values, but with at least 5 employees, were included in the small company partition. The purpose of partitioning the sample this way was to reduce the variability in industry estimates largely attributed to the random year-to-year selection of small companies by industry and the high sampling weights that sometimes were assigned to them. Because of this, detailed industry statistics were possible only from the large company partition; detailed industry statistics from the small company partition were not possible. Statistics from the small company partition are shown separately and are included in manufacturing, nonmanufacturing, and all industries totals. For more information, see "frame creation" and "sample selection" in the technical notes in Section B.

KEY: (D) = Data have been withheld to avoid disclosing operations of individual companies.
(S) = Indicates imputation of more than 50 percent.
(--) = Indicates data not collected.
(na) = Not applicable.

NOTES: Starting with the 1999 survey, estimates are based on the North American Industry Classification System (NAICS). In prior years, estimates were based on the Standard Industrial Classification (SIC) system. For this table, companies in the 1997 and 1998 surveys were assigned NAICS industry codes based on their SIC industry codes. Consequently, the estimates for 1997 and 1998 in this table are not necessarily representative of the NAICS categories of industries in those years. They are included for comparison purposes only.

The R&D in this table is the industrial R&D performed within company facilities funded by the Federal Government. Excluded from this table are R&D not performed within the company (e.g., R&D contracted out to other organizations) and R&D not performed in the U.S. (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations).

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-14. **Federal funds for industrial R&D performance in the U.S., by industry, by size of company: 2000**

Industry	NAICS codes	Size of company [number of employees]										
		Total	5 to 24	25 to 49	50 to 99	100 to 249	250 to 499	500 to 999	1,000 to 4,999	5,000 to 9,999	10,000 to 24,999	25,000 or more
		[In millions of dollars]										
Distribution by industry:												
All industries	21–23, 31–33, 42, 44–81	19,118	922	222	514	669	660	495	775	1,625	678	12,559
Manufacturing	31–33	13,328	97	2	17	67	84	166	255	(D)	(D)	11,307
Food	311	(D)	0	0	0	0	0	0	0	0	(D)	0
Beverage and tobacco products	312	0	0	0	0	0	0	0	0	0	0	0
Textiles, apparel, and leather	313–16	(D)	0	0	0	0	0	(D)	0	0	0	0
Wood products	321	0	0	0	0	0	0	0	0	0	0	0
Paper, printing and support activities	322, 323	(D)	0	0	0	0	0	0	0	0	0	(D)
Petroleum and coal products	324	(D)	0	0	0	0	0	0	0	0	0	(D)
Chemicals	325	150	0	0	0	8	0	0	(S) 15	(D)	(D)	(D)
Basic chemicals	3251	31	0	0	0	(D)	0	0	(D)	(D)	(D)	0
Resin, synthetic rubber, fibers, and filament	3252	11	0	0	0	0	0	0	(D)	0	(D)	(D)
Pharmaceuticals and medicines	3254	(D)	0	0	0	0	0	0	(D)	0	0	0
Other chemicals	325 (minus 3251–52, 3254)	(D)	0	0	0	(D)	0	0	0	0	0	(D)
Plastics and rubber products	326	(D)	0	0	0	0	(D)	0	0	0	0	0
Nonmetallic mineral products	327	1	0	0	0	0	0	0	(D)	0	0	(D)
Primary metals	331	(S) 26	0	0	0	0	0	0	0	(D)	(D)	(D)
Fabricated metal products	332	41	0	0	0	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Machinery	333	41	6	0	0	0	0	0	1	(D)	(D)	(D)
Computer and electronic products	334	5,544	0	0	(D)	52	79	108	224	(D)	(D)	(D)
Computers and peripheral equipment	3341	0	0	0	0	0	0	0	0	0	0	0
Communications equipment	3342	432	0	0	0	0	(D)	(D)	(D)	(D)	(D)	(D)
Semiconductor and other electronic components	3344	107	0	0	0	0	(D)	(D)	(D)	(D)	(D)	(D)
Navigational, measuring, electromedical, and control instruments	3345	5,002	0	0	0	52	18	(D)	(D)	(D)	(D)	(D)
Other computer and electronic products	334 (minus 3341–42, 3344–45)	3	0	0	(D)	0	0	0	(D)	0	0	0
Electrical equipment, appliances, and components	335	(D)	0	0	6	0	2	(D)	0	0	0	(D)

See explanatory information and SOURCE at end of table.

Table A-14. **Federal funds for industrial R&D performance in the U.S., by industry, by size of company: 2000**

Industry	NAICS codes	Size of company [number of employees]										
		Total	5 to 24	25 to 49	50 to 99	100 to 249	250 to 499	500 to 999	1,000 to 4,999	5,000 to 9,999	10,000 to 24,999	25,000 or more
		[In millions of dollars]										
Distribution by industry:												
Transportation equipment	336	7,168	0	0	(D)	(D)	0	45	11	350	(D)	6,470
Motor vehicles, trailers, and parts	3361–63	(D)	0	0	0	0	0	(D)	(D)	0	0	(D)
Aerospace products and parts	3364	6,424	0	0	(D)	(D)	0	(D)	(D)	(D)	(D)	6,017
Other transportation equipment	336 (minus 3361–64)	(D)	0	0	0	(D)	0	(D)	0	(D)	(D)	(D)
Furniture and related products	337	0	0	0	0	0	0	0	0	0	0	0
Miscellaneous manufacturing	339	12	0	0	(D)	2	1	(D)	(D)	0	0	0
Medical equipment and supplies	3391	(D)	0	0	(D)	2	1	(D)	0	0	0	0
Other miscellaneous manufacturing	339 (minus 3391)	(D)	0	0	0	0	0	0	(D)	0	0	0
Other manufacturing	31–33 (minus 311–16, 321–27, 331–37, 339)	--	--	--	--	--	--	--	--	--	--	--
Small manufacturing companies [1]	Fewer than 50 employees	93	(D)	(D)	0	0	0	0	0	0	0	0
Nonmanufacturing	21–23, 42, 44–81	5,790	825	220	496	602	577	329	(S) 521	(D)	(D)	(S) 1,251
Mining, extraction, and support activities	21	1	0	0	(D)	0	0	0	0	0	0	(D)
Utilities	22	(D)	0	0	0	0	0	0	0	(D)	(D)	(D)
Construction	23	(D)	0	0	0	0	0	0	0	(D)	0	0
Trade	42, 44, 45	30	0	18	(D)	0	0	0	0	0	(D)	(D)
Transportation and warehousing	48, 49	(D)	0	0	0	0	0	0	(D)	0	0	(D)
Information	51	(S) 540	0	0	(D)	19	61	0	(D)	0	(D)	(D)
Publishing	511	78	0	0	(D)	19	0	0	(D)	0	0	0
Newspaper, periodical, book, and database	5111	0	0	0	0	0	0	0	0	0	0	0
Software	5112	78	0	0	(D)	19	0	0	(D)	0	0	0
Broadcasting and telecommunications	513	(S) 382	0	0	(D)	0	0	0	0	0	(D)	(D)
Radio and television broadcasting	5131	(D)	0	0	0	0	0	0	0	0	0	(D)
Telecommunications	5133	(D)	0	0	(D)	0	0	0	0	0	(D)	(D)
Other broadcasting and telecommunications	513 (minus 5131, 5133)	0	0	0	0	0	0	0	0	0	0	0
Other information	51 (minus 511, 513)	81	0	0	0	0	61	0	0	0	(D)	(D)

See explanatory information and SOURCE at end of table.

Table A-14. **Federal funds for industrial R&D performance in the U.S., by industry, by size of company: 2000**

Industry	NAICS codes	Size of company [number of employees]										
		Total	5 to 24	25 to 49	50 to 99	100 to 249	250 to 499	500 to 999	1,000 to 4,999	5,000 to 9,999	10,000 to 24,999	25,000 or more
		[In millions of dollars]										
Distribution by industry:												
Finance, insurance, and real estate	52, 53	0	0	0	0	0	0	0	0	0	0	0
Professional, scientific, and technical services	54	4,628	316	199	435	583	504	322	(S) 481	(D)	(D)	(D)
Architectural, engineering, and related services	5413	1,149	113	72	92	(D)	245	(D)	(D)	(D)	(D)	0
Computer systems design and related services	5415	226	11	(D)	102	(D)	(D)	(D)	(D)	0	0	(D)
Scientific R&D services	5417	3,177	141	116	241	455	197	174	143	(D)	0	(D)
Other professional, scientific, and technical services	54 (minus 5413, 5415, 5417)	77	50	(D)	0	0	(D)	0	0	0	0	0
Management of companies and enterprises	55	0	0	0	0	0	0	0	0	0	0	0
Health care services	621–23	59	(D)	(D)	12	0	(D)	0	29	0	0	0
Other nonmanufacturing	56, 61, 624, 71, 72, 81	18	0	2	0	0	(D)	(D)	0	0	0	0
Small nonmanufacturing companies [1]	Fewer than 15 employees	494	(D)	(D)	0	0	0	0	0	0	0	0

[1] The frame from which the statistical sample was selected was divided into two partitions based on total company employment. In the manufacturing sector, companies with employment of 50 or more were included in the large company partition. In the nonmanufacturing sector, companies with employment of 15 or more were included in the large company partition. Companies in the respective sectors with employment below these values, but with at least 5 employees, were included in the small company partition. The purpose of partitioning the sample this way was to reduce the variability in industry estimates largely attributed to the random year-to-year selection of small companies by industry and the high sampling weights that sometimes were assigned to them. Because of this, detailed industry statistics were possible only from the large company partition; detailed industry statistics from the small company partition were not possible. Statistics from the small company partition are shown separately and are included in manufacturing, nonmanufacturing, and all industries totals. Note that because companies were assigned to the "small company" partition of the sample based on preliminary information available from the sampling frame and the number of employees may have been revised during statistical processing, some companies' statistics are reported in size categories above the 50 employee threshold for manufacturing companies and the 15 employee threshold for nonmanufacturing companies. For more information, see "frame creation" and "sample selection" in the technical notes in Section B.

KEY: (D) = Data have been withheld to avoid disclosing operations of individual companies.
(S) = Indicates imputation of more than 50 percent.
(--) = Indicates data not collected.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-15. **Federal funds for industrial R&D performance in the U.S. and number of companies that performed federally funded R&D in the U.S., by industry and size of company, by size of federally funded R&D program: 2000**

Industry and size of company	NAICS codes	Total number of companies	Total amount	Size of federally funded R&D program: Less than $200,000		$200,000 to $999,999		$ 1 million to $9.9 million		$ 10 million to $99.9 million		$100 million or more	
				Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]
Distribution by industry:													
All industries	21–23, 31–33, 42, 44–81	3,033	19,118	580	38	1,272	532	869	1,337	254	2,204	57	15,006
Manufacturing	31–33	618	13,328	161	3	305	95	55	121	53	583	44	12,526
Food	311	1	(D)	0	0	0	0	0	0	1	(D)	0	0
Beverage and tobacco products	312	0	0	0	0	0	0	0	0	0	0	0	0
Textiles, apparel, and leather	313–16	1	(D)	1	(D)	0	0	0	0	0	0	0	0
Wood products	321	0	0	0	0	0	0	0	0	0	0	0	0
Paper, printing and support activities	322, 323	2	(D)	0	0	0	0	0	0	1	(D)	1	(D)
Petroleum and coal products	324	1	(D)	0	0	0	0	0	0	0	0	1	(D)
Chemicals	325	27	150	0	0	0	0	16	11	6	(D)	5	(D)
Basic chemicals	3251	8	31	0	0	0	0	3	(D)	4	(D)	1	(D)
Resin, synthetic rubber, fibers, and filament	3252	3	11	0	0	0	0	0	0	0	0	3	11
Pharmaceuticals and medicines	3254	2	(D)	0	0	0	0	0	0	2	(D)	0	0
Other chemicals	325 (minus 3251–52, 3254)	13	(D)	0	0	0	0	12	(D)	0	0	1	(D)
Plastics and rubber products	326	6	(D)	5	(D)	0	0	1	(D)	0	0	0	0
Nonmetallic mineral products	327	7	1	5	0	0	0	1	(D)	0	0	1	(D)
Primary metals	331	5	(S) 26	0	0	0	0	1	(D)	3	(D)	1	(D)
Fabricated metal products	332	57	41	50	0	2	(D)	1	(D)	4	(D)	0	0
Machinery	333	12	41	0	0	0	0	4	(D)	2	(D)	5	33
Computer and electronic products	334	57	5,544	0	0	3	(D)	20	70	21	(D)	13	5,082
Computers and peripheral equipment	3341	0	0	0	0	0	0	0	0	0	0	0	0

See explanatory information and SOURCE at end of table.

Table A-15. **Federal funds for industrial R&D performance in the U.S. and number of companies that performed federally funded R&D in the U.S., by industry and size of company, by size of federally funded R&D program: 2000**

Industry and size of company	NAICS codes	Total number of companies	Total amount	Size of federally funded R&D program: Less than $200,000		$200,000 to $999,999		$ 1 million to $9.9 million		$ 10 million to $99.9 million		$100 million or more	
				Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]
Distribution by industry:													
Communications equipment	3342	8	432	0	0	0	0	0	0	5	(D)	3	(D)
Semiconductor and other electronic components	3344	8	107	0	0	0	0	0	0	6	(D)	2	(D)
Navigational, measuring, electromedical, and control instruments	3345	37	5,002	0	0	0	0	20	70	9	168	8	4,764
Other computer and electronic products	334 (minus 3341–42, 3344–45)	4	3	0	0	3	(D)	0	0	1	(D)	0	0
Electrical equipment, appliances, and components	335	6	(D)	0	0	0	0	4	9	1	(D)	1	(D)
Transportation equipment	336	28	7,168	0	0	0	0	3	(D)	9	(D)	16	7,046
Motor vehicles, trailers, and parts	3361–63	8	(D)	0	0	0	0	0	0	4	(D)	4	(D)
Aerospace products and parts	3364	14	6,424	0	0	0	0	3	(D)	2	(D)	9	6,368
Other transportation equipment	336 (minus 3361–64)	6	(D)	0	0	0	0	0	0	3	(S) 48	3	(D)
Furniture and related products	337	0	0	0	0	0	0	0	0	0	0	0	0
Miscellaneous manufacturing	339	8	12	0	0	0	0	3	(D)	5	(D)	0	0
Medical equipment and supplies	3391	7	(D)	0	0	0	0	2	2	5	(D)	0	0
Other miscellaneous manufacturing	339 (minus 3391)	1	(D)	0	0	0	0	1	(D)	0	0	0	0
Other manufacturing	31–33 (minus 311–16, 321–27, 331–37, 339)	--	--	--	--	--	--	--	--	--	--	--	--
Small manufacturing companies 1	Fewer than 50 employees	400	93	100	2	300	91	0	0	0	0	0	0

See explanatory information and SOURCE at end of table.

Table A-15. **Federal funds for industrial R&D performance in the U.S. and number of companies that performed federally funded R&D in the U.S., by industry and size of company, by size of federally funded R&D program: 2000**

Industry and size of company	NAICS codes	Total number of companies	Total amount	Size of federally funded R&D program: Less than $200,000		$200,000 to $999,999		$ 1 million to $9.9 million		$ 10 million to $99.9 million		$100 million or more	
				Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]
Distribution by industry:													
Nonmanufacturing	21–23, 42, 44–81	2,415	5,790	419	36	968	438	815	1,216	201	1,621	13	(S) 2,480
Mining, extraction, and support activities	21	18	1	0	0	17	(D)	0	0	0	0	1	(D)
Utilities	22	4	(D)	0	0	0	0	3	(D)	1	(D)	0	0
Construction	23	1	(D)	0	0	0	0	0	0	1	(D)	0	0
Trade	42, 44, 45	60	30	0	0	0	0	7	(D)	50	17	3	(D)
Transportation and warehousing	48, 49	2	(D)	0	0	0	0	2	(D)	0	0	0	0
Information	51	75	(S) 540	0	0	0	0	58	(D)	13	111	4	(D)
Publishing	511	60	78	0	0	0	0	57	(D)	3	(D)	0	0
Newspaper, periodical, book, and database	5111	0	0	0	0	0	0	0	0	0	0	0	0
Software	5112	60	78	0	0	0	0	57	(D)	3	(D)	0	0
Broadcasting and telecommunications	513	5	(S) 382	0	0	0	0	1	(D)	1	(D)	3	(D)
Radio and television broadcasting	5131	1	(D)	0	0	0	0	0	0	0	0	1	(D)
Telecommunications	5133	4	(D)	0	0	0	0	1	(D)	1	(D)	2	(D)
Other broadcasting and telecommunications	513 (minus 5131, 5133)	0	0	0	0	0	0	0	0	0	0	0	0
Other information	51 (minus 511, 513)	10	81	0	0	0	0	0	0	9	(D)	1	(D)
Finance, insurance, and real estate	52, 53	2	0	0	0	0	0	2	0	0	0	0	0

See explanatory information and SOURCE at end of table.

Table A-15. **Federal funds for industrial R&D performance in the U.S. and number of companies that performed federally funded R&D in the U.S., by industry and size of company, by size of federally funded R&D program: 2000**

Industry and size of company	NAICS codes	Total number of companies	Total amount	Size of federally funded R&D program: Less than $200,000		$200,000 to $999,999		$ 1 million to $9.9 million		$ 10 million to $99.9 million		$100 million or more	
				Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]
Distribution by industry:													
Professional, scientific, and technical services	54	829	4,628	13	1	233	113	462	973	116	1,441	5	(S) 2,101
Architectural, engineering, and related services	5413	257	1,149	11	(D)	84	23	138	250	22	484	2	(D)
Computer systems design and related services	5415	66	226	1	(D)	26	7	30	(D)	9	(D)	0	0
Scientific R&D services	5417	454	3,177	1	(D)	73	32	293	617	84	817	3	(D)
Other professional, scientific, and technical services	54 (minus 5413, 5415, 5417)	52	77	0	0	50	50	1	(D)	1	(D)	0	0
Management of companies and enterprises	55	9	0	0	0	9	0	0	0	0	0	0	0
Health care services	621–23	121	59	0	0	100	27	3	(D)	18	(D)	0	0
Other nonmanufacturing	56, 61, 624, 71, 72, 81	77	18	0	0	0	0	76	(D)	1	(D)	0	0
Small nonmanufacturing companies [1]	Fewer than 15 employees	1,218	494	406	35	609	(D)	203	162	1	(D)	0	0

See explanatory information and SOURCE at end of table.

Table A-15. **Federal funds for industrial R&D performance in the U.S. and number of companies that performed federally funded R&D in the U.S., by industry and size of company, by size of federally funded R&D program: 2000**

Industry and size of company	NAICS codes	Total number of companies	Total amount	Size of federally funded R&D program									
				Less than $200,000		$200,000 to $999,999		$ 1 million to $9.9 million		$ 10 million to $99.9 million		$100 million or more	
				Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]	Number of companies	Amount [In millions of dollars]
Distribution by size of company: [Number of employees]													
Total	(na)	3,033	19,118	580	38	1,272	532	869	1,337	254	2,204	57	15,006
5 to 24	(na)	1,875	922	406	35	1,092	495	377	393	0	0	0	0
25 to 49	(na)	434	222	101	2	66	13	211	182	56	25	0	0
50 to 99	(na)	312	514	50	0	101	21	140	361	20	131	0	0
100 to 249	(na)	162	669	4	0	4	1	100	321	53	347	0	0
250 to 499	(na)	82	660	18	(D)	3	(D)	20	60	41	598	0	0
500 to 999	(na)	31	495	1	(D)	5	(D)	5	8	20	486	0	0
1,000 to 4,999	(na)	57	775	0	0	0	0	10	(D)	42	436	5	(D)
5,000 to 9,999	(na)	20	1,625	0	0	0	0	3	(D)	12	(D)	5	1,534
10,000 to 24,999	(na)	21	678	0	0	0	0	2	(D)	5	75	14	(D)
25,000 or more	(na)	39	12,559	0	0	0	0	1	(D)	5	(D)	33	12,541

[1] The frame from which the statistical sample was selected was divided into two partitions based on total company employment. In the manufacturing sector, companies with employment of 50 or more were included in the large company partition. In the nonmanufacturing sector, companies with employment of 15 or more were included in the large company partition. Companies in the respective sectors with employment below these values, but with at least 5 employees, were included in the small company partition. The purpose of partitioning the sample this way was to reduce the variability in industry estimates largely attributed to the random year-to-year selection of small companies by industry and the high sampling weights that sometimes were assigned to them. Because of this, detailed industry statistics were possible only from the large company partition; detailed industry statistics from the small company partition were not possible. Statistics from the small company partition are shown separately and are included in manufacturing, nonmanufacturing, and all industries totals. For more information, see "frame creation" and "sample selection" in the technical notes in Section B.

KEY: (D) = Data have been withheld to avoid disclosing operations of individual companies.
(S) = Indicates imputation of more than 50 percent.
(--) = Indicates data not collected.
(na) = Not applicable.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-16. **Federal funds for industrial R&D performance in the U.S., by selected Federal agency and selected industry: 1997–2000**

Industry and Federal agency	NAICS codes	1997	1998	1999 [1]	2000
		[In millions of dollars]			
All agencies [2]		23,928	24,164	22,535	19,118
Chemicals	325	107	236	194	150
Machinery	333	141	(D)	(S) 399	41
Computer and electronic products	334	4,291	6,336	5,993	5,544
Electrical equipment, appliances, and components	335	160	141	(D)	(D)
Motor vehicles, trailers, and parts	3361-63	(D)	(D)	(D)	(D)
Other transportation equipment	336 minus (3361-64)	(D)	(D)	716	(D)
Aerospace products and parts	3364	10,904	9,838	9,117	6,424
Other industries [3]	--	6,527	6,417	5,686	5,992
DoD					
Total [2]		(S) 12,603	13,709	(S) 11,650	(S) 11,142
Chemicals	325	(S) 35	(S) 35	(S) 81	(D)
Machinery	333	13	(D)	(D)	(S) 1
Computer and electronic products	334	4,087	6,185	(S) 5,481	5,108
Electrical equipment, appliances, and components	335	(D)	(D)	(D)	(D)
Motor vehicles, trailers, and parts	3361-63	(D)	(D)	(D)	(D)
Other transportation equipment	336 minus (3361-64)	(D)	(D)	(D)	(S) 544
Aerospace products and parts	3364	(S) 5,196	5,055	4,076	(S) 2,733
Other industries [3]	--	2,060	2,145	(S) 1,322	2,435
NASA					
Total [2]		(S) 2,022	(S) 1,522	(S) 1,469	(S) 1,328
Chemicals	325	(S) 7	(S) 7	(D)	0
Machinery	333	(D)	(D)	(D)	(S) 0
Computer and electronic products	334	(S) 86	(S) 93	(S) 267	(D)
Electrical equipment, appliances, and components	335	(D)	(D)	(D)	(D)
Motor vehicles, trailers, and parts	3361-63	(D)	(D)	(D)	(D)
Other transportation equipment	336 minus (3361-64)	(D)	0	(D)	(D)
Aerospace products and parts	3364	(S) 1,102	977	566	314
Other industries [3]	--	738	323	(S) 457	554
DOE					
Total [2]		(S) 2,505	(S) 1,998	2,209	1,455
Chemicals	325	(S) 10	(S) 10	(D)	(S) 19
Machinery	333	30	(D)	(D)	(S) 28
Computer and electronic products	334	(D)	(S) 22	(D)	0
Electrical equipment, appliances, and components	335	(D)	(D)	(D)	(D)
Motor vehicles, trailers, and parts	3361-63	1	(D)	(D)	(D)
Other transportation equipment	336 minus (3361-64)	(D)	0	0	0
Aerospace products and parts	3364	(S) 1,336	(S) 1,173	1,778	1,234
Other industries [3]	--	968	672	(S) 255	159

See explanatory information and SOURCE at end of table

Table A-16. **Federal funds for industrial R&D performance in the U.S., by selected Federal agency and selected industry: 1997–2000**

[1] Some statistics for 1999 have been revised since originally published.

[2] The totals for "all agencies" prior to 1999 are identical to the corresponding totals previously published using the Standard Industrial Classification (SIC) system. Detail published using the North American Industry Classification System (NAICS) may not add to the totals. See the 'NOTES' below.

[3] Estimates for all manufacturing companies with at least 5 but with fewer than 50 employees and nonmanufacturing companies with at least 5 but with fewer than 15 employees are combined with those for companies in 'Other industries' without regard to industry classification.

KEY: (D) = Data have been withheld to avoid disclosing operations of individual companies.
(S) = Indicates imputation of more than 50 percent.
(--) = All NAICS codes other than those specified.

NOTES: Starting with the 1999 survey, estimates are based on the North American Industry Classification System (NAICS). In prior years, estimates were based on the Standard Industrial Classification (SIC) system. For this table, companies in the 1997 and 1998 surveys were assigned NAICS industry codes based on their SIC industry codes. Consequently, the estimates for 1997 and 1998 in this table are not necessarily representative of the NAICS categories of industries in those years. They are included for comparison purposes only.

Data for DoD, NASA, and DOE do not sum to the totals because the data reported by other Federal agencies are included in the totals but not shown separately. In addition, Federal R&D data collected on the Form RD-1A are not allocated by agency type.

During data collection, if exact figures were not available, respondents were asked to estimate or apportion R&D costs according to the number of scientists and engineers working on Federal projects and/or the costs of Federal programs. Consequently, statistics in this table may be based on such estimates.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-17. **Domestic net sales of companies that performed industrial R&D in the U.S., by industry, by size of company: 2000**

Industry	NAICS codes	Total	Size of company [number of employees]									
			5 to 24	25 to 49	50 to 99	100 to 249	250 to 499	500 to 999	1,000 to 4,999	5,000 to 9,999	10,000 to 24,999	25,000 or more
		[In millions of dollars]										
Distribution by industry:												
All industries	21–23, 31–33, 42, 44–81	5,249,573	34,562	35,717	60,164	104,013	110,989	182,179	844,513	702,858	890,004	2,284,573
Manufacturing	31–33	3,405,208	17,732	19,548	33,715	63,992	66,414	122,716	501,786	471,012	572,401	1,535,891
Food	311	310,802	0	0	(D)	(D)	3,315	10,077	57,073	57,004	64,022	117,129
Beverage and tobacco products	312	56,005	0	0	0	0	0	0	5,065	(D)	0	(D)
Textiles, apparel, and leather	313–16	35,137	0	0	224	1,542	2,415	4,725	10,094	3,383	(D)	(D)
Wood products	321	13,527	0	0	32	417	(D)	719	3,108	(D)	(D)	0
Paper, printing and support activities	322, 323	167,046	0	0	114	(D)	(D)	0	4,898	25,657	28,607	102,404
Petroleum and coal products	324	353,210	0	0	0	(D)	1,238	2,039	6,992	(D)	115,766	177,202
Chemicals	325	353,926	0	(D)	4,507	(D)	9,106	14,454	86,428	80,248	76,411	79,269
Basic chemicals	3251	87,728	0	0	(D)	2,314	(D)	10,044	39,746	26,052	(D)	0
Resin, synthetic rubber, fibers, and filament	3252	50,637	0	0	1,227	(D)	(D)	0	10,117	(D)	(D)	(D)
Pharmaceuticals and medicines	3254	130,528	0	(D)	(D)	(D)	2,026	1,157	10,807	(D)	45,944	52,425
Other chemicals	325 (minus 3251–52, 3254)	85,033	0	0	2,932	1,153	6,034	3,253	25,758	30,031	(D)	(D)
Plastics and rubber products	326	91,243	871	115	2,515	6,205	3,431	10,936	23,963	14,288	9,524	19,394
Nonmetallic mineral products	327	46,002	0	0	(D)	1,140	2,495	1,788	12,262	11,024	11,182	(D)
Primary metals	331	122,752	0	0	(D)	0	2,898	6,557	19,373	19,869	20,368	(D)
Fabricated metal products	332	118,452	628	636	4,814	6,652	6,967	12,418	21,586	22,071	19,429	23,251
Machinery	333	170,276	11	701	3,822	10,763	8,936	13,351	43,763	27,364	31,242	30,322
Computer and electronic products	334	501,999	(D)	(D)	4,924	10,214	13,703	27,825	93,702	47,810	106,748	193,148
Computers and peripheral equipment	3341	79,199	0	(D)	1,419	666	1,735	2,782	(S) 10,497	15,066	47,033	(D)
Communications equipment	3342	116,792	0	(D)	571	1,479	2,749	9,762	15,574	(S) 7,662	(D)	68,633
Semiconductor and other electronic components	3344	172,363	(D)	3,399	1,370	2,862	5,090	7,010	43,440	17,447	(D)	(D)
Navigational, measuring, electromedical, and control instruments	3345	126,421	0	0	1,382	4,645	2,908	6,187	21,033	7,634	14,935	67,697
Other computer and electronic products	334 (minus 3341–42, 3344–45)	7,224	(D)	(D)	182	562	1,222	2,084	3,157	0	0	0
Electrical equipment, appliances, and components	335	164,385	0	0	1,554	4,992	(D)	4,057	14,561	12,378	38,340	(D)

See explanatory information and SOURCE at end of table.

Table A-17. **Domestic net sales of companies that performed industrial R&D in the U.S., by industry, by size of company: 2000**

Industry	NAICS codes	Total	Size of company [number of employees]									
			5 to 24	25 to 49	50 to 99	100 to 249	250 to 499	500 to 999	1,000 to 4,999	5,000 to 9,999	10,000 to 24,999	25,000 or more
		[In millions of dollars]										
Distribution by industry:												
Transportation equipment	336	749,851	0	0	1,876	2,872	4,416	7,357	46,059	69,590	25,247	592,433
Motor vehicles, trailers, and parts	3361–63	567,523	0	0	1,008	1,593	3,432	5,646	38,932	58,193	13,679	445,039
Aerospace products and parts	3364	141,548	0	0	448	(D)	0	(D)	1,220	7,063	(D)	127,848
Other transportation equipment	336 (minus 3361–64)	40,780	0	0	420	(D)	984	(D)	5,906	4,334	(D)	19,546
Furniture and related products	337	36,544	0	0	(D)	2,415	1,548	1,756	6,042	7,836	11,163	(D)
Miscellaneous manufacturing	339	48,371	189	(D)	2,466	4,800	3,989	4,658	18,526	11,840	0	(D)
Medical equipment and supplies	3391	28,588	0	(D)	439	2,300	2,142	1,837	11,238	(D)	0	(D)
Other miscellaneous manufacturing	339 (minus 3391)	19,783	189	(D)	2,028	2,500	1,847	2,821	7,289	(D)	0	0
Other manufacturing	31–33 (minus 311–16, 321–27, 331–37, 339)	--	--	--	--	--	--	--	--	--	--	--
Small manufacturing companies [1]	Fewer than 50 employees	65,681	15,886	14,252	(D)	(D)	0	0	0	0	0	0
Nonmanufacturing	21–23, 42, 44–81	1,844,364	16,831	16,168	26,449	40,021	44,575	59,462	342,727	231,845	317,603	748,682
Mining, extraction, and support activities	21	82,963	(D)	0	1,018	0	737	8,141	6,065	(D)	17,404	(D)
Utilities	22	232,802	0	0	(D)	0	8,937	5,415	32,248	59,322	116,814	(D)
Construction	23	11,934	0	0	693	282	(D)	1,215	5,448	(D)	(D)	0
Trade	42, 44, 45	466,903	3,001	9,486	14,383	7,569	7,145	24,399	182,985	72,255	67,683	77,998
Transportation and warehousing	48, 49	89,405	(D)	110	0	9,654	4,122	937	10,089	(D)	(D)	58,847
Information	51	406,919	724	1,473	1,092	7,412	8,138	6,440	23,093	6,957	55,389	296,201
Publishing	511	79,544	516	1,473	962	6,616	4,069	4,817	19,220	(D)	28,482	(D)
Newspaper, periodical, book, and database	5111	18,015	(S) 3	110	(D)	0	1,153	(D)	(D)	(D)	(D)	(D)
Software	5112	61,530	512	1,363	(D)	6,616	2,916	(D)	(D)	4,036	(D)	0
Broadcasting and telecommunications	513	279,983	0	0	(D)	(D)	120	626	(D)	0	(D)	276,422
Radio and television broadcasting	5131	(D)	0	0	0	0	(D)	0	0	0	0	(D)
Telecommunications	5133	272,351	0	0	(D)	(D)	61	626	(D)	0	(D)	(D)
Other broadcasting and telecommunications	513 (minus 5131, 5133)	(D)	0	0	0	0	(D)	0	0	0	0	0
Other information	51 (minus 511, 513)	47,392	208	0	(D)	(D)	3,949	996	(D)	(D)	(D)	(D)

See explanatory information and SOURCE at end of table.

Table A-17. **Domestic net sales of companies that performed industrial R&D in the U.S., by industry, by size of company: 2000**

Industry	NAICS codes	Total	Size of company [number of employees]									
			5 to 24	25 to 49	50 to 99	100 to 249	250 to 499	500 to 999	1,000 to 4,999	5,000 to 9,999	10,000 to 24,999	25,000 or more
		[In millions of dollars]										
Distribution by industry:												
Finance, insurance, and real estate	52, 53	335,868	(D)	185	743	385	(D)	988	44,301	29,243	(S) 22,330	237,252
Professional, scientific, and technical services	54	120,541	2,387	4,513	7,476	12,092	11,192	9,424	26,069	16,675	12,146	18,566
Architectural, engineering, and related services	5413	31,285	699	803	1,956	1,541	1,591	829	7,879	4,536	11,449	0
Computer systems design and related services	5415	41,908	539	2,417	2,852	5,665	(D)	4,057	12,385	3,234	0	(D)
Scientific R&D services	5417	30,043	579	1,070	2,309	3,600	4,331	2,842	3,292	4,956	(D)	(D)
Other professional, scientific, and technical services	54 (minus 5413, 5415, 5417)	17,305	570	(S) 223	359	1,286	(D)	1,696	2,513	3,949	(D)	(D)
Management of companies and enterprises	55	1,124	12	103	218	(D)	0	(D)	0	0	0	0
Health care services	621–23	17,010	154	193	(D)	1,035	193	0	8,195	(D)	0	(D)
Other nonmanufacturing	56, 61, 624, 71, 72, 81	69,617	933	105	679	1,367	3,609	1,527	4,235	0	19,785	37,377
Small nonmanufacturing companies [1]	Fewer than 15 employees	9,278	(D)	0	0	0	0	0	0	0	0	0

[1] The frame from which the statistical sample was selected was divided into two partitions based on total company employment. In the manufacturing sector, companies with employment of 50 or more were included in the large company partition. In the nonmanufacturing sector, companies with employment of 15 or more were included in the large company partition. Companies in the respective sectors with employment below these values, but with at least 5 employees, were included in the small company partition. The purpose of partitioning the sample this way was to reduce the variability in industry estimates largely attributed to the random year-to-year selection of small companies by industry and the high sampling weights that sometimes were assigned to them. Because of this, detailed industry statistics were possible only from the large company partition; detailed industry statistics from the small company partition were not possible. Statistics from the small company partition are shown separately and are included in manufacturing, nonmanufacturing, and all industries totals. Note that because companies were assigned to the "small company" partition of the sample based on preliminary information available from the sampling frame and the number of employees may have been revised during statistical processing, some companies' statistics are reported in size categories above the 50 employee threshold for manufacturing companies and the 15 employee threshold for nonmaufacutring companies. For more information, see "frame creation" and "sample selection" in the technical notes in Section B.

KEY: (D) = Data have been withheld to avoid disclosing operations of individual companies.
(S) = Indicates imputation of more than 50 percent.
(--) = Indicates data not collected.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-18. **Concentration of total, Federal, and company and other industrial R&D funds and net sales of companies that performed industrial R&D in the U.S., ranked by size of R&D program: 1989–2000**

Companies ranked by size of R&D program	1989 [1]	1990 [1]	1991 [1,2]	1992 [2]	1993 [2]	1994 [2]	1995 [2]	1996 [2]	1997 [2]	1998 [2]	1999 [2,3]	2000 [2]
	Percent of total (company, Federal, and other) R&D funds											
First 4 (1–4)	19	18	16	15	17	15	16	15	14	12	11	10
Next 4 (5–8)	13	13	8	8	7	8	8	8	8	8	8	7
Next 12 (9–20)	16	15	12	13	13	14	13	13	13	13	13	13
Next 20 (21–40)	12	12	11	11	12	13	12	12	11	11	11	11
Next 60 (41–100)	15	16	15	15	16	15	14	14	14	13	13	14
Next 100 (101–200)	8	9	12	12	8	9	8	9	9	9	9	9
Next 200 (201–400)	6	7	6	6	7	7	7	7	8	8	7	10
	Percent of Federal R&D funds											
First 4 (1–4)	36	38	14	11	23	26	35	37	40	46	47	43
Next 4 (5–8)	15	16	21	18	17	19	19	20	23	17	14	(S) 16
Next 12 (9–20)	30	26	21	27	32	32	27	23	18	14	15	15
Next 20 (21–40)	11	12	15	13	16	13	8	7	7	7	8	7
Next 60 (41–100)	6	6	13	11	5	7	5	5	5	7	7	6
Next 100 (101–200)	1	1	3	4	5	2	3	4	3	5	4	5
Next 200 (201–400)	0	0	2	2	2	1	3	4	4	4	5	7
	Percent of company and other (except Federal) R&D funds											
First 4 (1–4)	22	21	17	17	17	16	16	15	13	12	11	10
Next 4 (5–8)	7	7	7	8	7	7	7	7	7	7	8	7
Next 12 (9–20)	13	12	10	12	12	12	11	11	11	12	12	12
Next 20 (21–40)	12	13	10	11	11	11	11	10	11	10	10	10
Next 60 (41–100)	16	17	16	17	14	14	14	14	13	13	13	13
Next 100 (101–200)	10	10	15	14	9	9	9	10	10	10	9	9
Next 200 (201–400)	8	8	7	7	8	8	8	8	9	8	8	11
	Percent of net sales											
First 4 (1–4)	6	8	7	8	8	8	8	6	6	5	(S) 5	3
Next 4 (5–8)	5	4	3	3	3	2	2	3	2	3	2	(D)
Next 12 (9–20)	5	5	4	4	4	5	6	6	5	5	6	8
Next 20 (21–40)	5	5	4	4	4	5	4	4	5	5	4	4
Next 60 (41–100)	12	12	12	12	11	10	9	8	7	8	7	11
Next 100 (101–200)	8	9	9	9	8	8	8	11	8	8	7	9
Next 200 (201–400)	11	12	11	11	10	10	10	11	13	11	12	12

[1] As a result of a new sample design, statistics for 1989–91 have been revised since originally published. These statistics now better reflect R&D performance among firms in the nonmanufacturing industries and small firms in all industries. For more information, see the technical notes in Section

[2] As a result of the new sample design, statistics for 1991 and later years are not directly comparable with statistics for 1990 and earlier years. For more information, see the technical notes in Section B.

[3] Some percentages for 1999 have been revised since originally published

KEY: (D) = Data have been withheld to avoid disclosing operations of individual companies.
(S) = Indicates imputation of more than 50 percent.

NOTE: Companies were ranked individually for each year; therefore, particular companies comprising the size groups may have changed from year to year.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-19. **Total (Federal plus company and other) funds for industrial R&D performance in the U.S. as a percent of net sales of companies that performed industrial R&D in the U.S., by industry and size of company: 1997–2000**

Industry and size of company	NAICS codes	1997	1998	1999 [1]	2000
		[Percent]			
Distribution by industry:					
All industries [2]	21–23, 31–33, 42, 44–81	3.4	3.6	3.7	3.8
Manufacturing	31–33	--	--	3.7	3.6
Food	311	0.4	0.4	0.4	(D)
Beverage and tobacco products	312	0.8	0.6	(D)	0.7
Textiles, apparel, and leather	313–16	0.8	0.9	0.7	(D)
Wood products	321	0.4	0.4	0.5	0.8
Paper, printing and support activities	322, 323	(D)	(D)	(D)	(D)
Petroleum and coal products	324	(D)	0.8	0.4	(D)
Chemicals	325	5.5	6.3	5.2	5.9
Basic chemicals	3251	2.6	4.9	2.1	2.4
Resin, synthetic rubber, fibers, and filament	3252	(D)	(D)	(D)	5.6
Pharmaceuticals and medicines	3254	(D)	(D)	(D)	(D)
Other chemicals	325 (minus 3251–52, 3254)	(D)	(D)	(D)	(D)
Plastics and rubber products	326	1.3	2.0	1.9	(D)
Nonmetallic mineral products	327	1.9	1.3	(D)	1.8
Primary metals	331	0.8	(D)	0.4	0.5
Fabricated metal products	332	1.7	1.5	1.5	1.4
Machinery	333	3.2	(D)	3.5	3.9
Computer and electronic products	334	9.1	9.6	10.3	9.0
Computers and peripheral equipment	3341	(D)	(D)	(D)	6.5
Communications equipment	3342	7.3	10.5	12.0	9.9
Semiconductor and other electronic components	3344	(D)	8.7	8.3	7.5
Navigational, measuring, electromedical, and control instruments	3345	12.4	13.6	15.2	12.0
Other computer and electronic products	334 (minus 3341–42, 3344–45)	4.0	(D)	(D)	4.3
Electrical equipment, appliances, and components	335	3.1	2.9	(D)	(D)
Transportation equipment	336	5.6	3.6	4.2	4.0
Motor vehicles, trailers, and parts	3361–63	(D)	(D)	(D)	(D)
Aerospace products and parts	3364	8.4	7.2	8.8	7.3
Other transportation equipment	336 (minus 3361–64)	(D)	(D)	(D)	(D)
Furniture and related products	337	0.9	0.9	0.7	0.8
Miscellaneous manufacturing	339	5.9	(D)	5.7	8.7
Medical equipment and supplies	3391	8.4	(D)	(D)	(D)
Other miscellaneous manufacturing	339 (minus 3391)	1.8	2.4	(D)	(D)
Other manufacturing [3]	31–33 (minus 311–16, 321–27, 331–37, 339)	(S) 0.7	(D)	--	--
Small manufacturing companies [4]	Fewer than 50 employees	4.2	4.4	10.0	4.0

See explanatory information and SOURCE at end of table.

Table A-19. **Total (Federal plus company and other) funds for industrial R&D performance in the U.S. as a percent of net sales of companies that performed industrial R&D in the U.S., by industry and size of company: 1997–2000**

Industry and size of company	NAICS codes	1997	1998	1999 [1]	2000
		[Percent]			
Distribution by industry:					
Nonmanufacturing	21–23, 42, 44–81	--	--	3.7	4.1
Mining, extraction, and support activities	21	(D)	(D)	(D)	1.0
Utilities	22	(D)	(D)	0.1	(D)
Construction	23	1.7	(D)	3.1	(D)
Trade	42, 44, 45	(D)	4.9	5.5	5.3
Transportation and warehousing	48, 49	(D)	0.3	0.5	(D)
Information	51	2.8	4.6	3.6	4.1
Publishing	511	11.6	13.3	13.4	16.3
Newspaper, periodical, book, and database	5111	1.2	1.3	2.0	2.0
Software	5112	19.3	20.0	16.8	20.5
Broadcasting and telecommunications	513	(D)	(D)	(D)	(S) 0.5
Radio and television broadcasting	5131	(D)	(D)	(D)	(D)
Telecommunications	5133	(D)	(D)	(D)	(D)
Other broadcasting and telecommunications	513 (minus 5131, 5133)	(D)	(D)	(D)	(D)
Other information	51 (minus 511, 513)	(D)	(D)	(D)	5.1
Finance, insurance, and real estate	52, 53	(D)	(D)	(D)	1.2
Professional, scientific, and technical services	54	14.4	15.5	15.3	18.7
Architectural, engineering, and related services	5413	6.4	9.5	10.1	10.8
Computer systems design and related services	5415	(D)	(D)	(D)	12.3
Scientific R&D services	5417	57.6	57.2	45.3	42.9
Other professional, scientific, and technical services	54 (minus 5413, 5415, 5417)	(D)	(D)	(D)	6.6
Management of companies and enterprises	55	(D)	28.5	(D)	4.4
Health care services	621–23	5.2	4.8	6.5	3.2
Other nonmanufacturing [3]	56, 61, 624, 71, 72, 81	0.8	2.2	(D)	1.0
Small nonmanufacturing companies [4]	Fewer than 15 employees	(D)	19.8	15.1	46.1

See explanatory information and SOURCE at end of table.

Table A-19. **Total (Federal plus company and other) funds for industrial R&D performance in the U.S. as a percent of net sales of companies that performed industrial R&D in the U.S., by industry and size of company: 1997–2000**

Industry and size of company	NAICS codes	1997	1998	1999 [1]	2000
		[Percent]			
Distribution by size of company: [Number of employees]					
Total	(na)	3.4	3.6	3.7	3.8
5 to 24	(na)	11.1	9.8	18.2	19.9
25 to 49	(na)	8.4	9.1	11.5	14.0
50 to 99	(na)	8.7	8.9	14.2	12.1
100 to 249	(na)	5.4	9.2	7.6	8.7
250 to 499	(na)	4.6	6.0	6.3	6.7
500 to 999	(na)	3.0	3.2	4.4	5.0
1,000 to 4,999	(na)	2.7	3.1	3.2	3.6
5,000 to 9,999	(na)	2.5	1.9	2.6	2.4
10,000 to 24,999	(na)	2.6	2.8	2.8	3.2
25,000 or more	(na)	3.9	4.1	3.6	3.4

[1] Some percentages for 1999 have been revised since originally published.

[2] The totals for "all industries" prior to 1999 are identical to corresponding totals previously published using the Standard Industrial Classification (SIC) system. Also, pre-1999 detail published using the North American Industry Classification System (NAICS) may not add to the totals. See the 'NOTE' below.

[3] Manufacturing companies in the 1997 and 1998 samples that could not be classified with a NAICS code are included in "other manufacturing;" nonmanufacturing companies that could not be classified with a NAICS code are included in "other nonmanufacturing."

[4] The frame from which the statistical sample was selected was divided into two partitions based on total company employment. In the manufacturing sector, companies with employment of 50 or more were included in the large company partition. In the nonmanufacturing sector, companies with employment of 15 or more were included in the large company partition. Companies in the respective sectors with employment below these values, but with at least 5 employees, were included in the small company partition. The purpose of partitioning the sample this way was to reduce the variability in industry estimates largely attributed to the random year-to-year selection of small companies by industry and the high sampling weights that sometimes were assigned to them. Because of this, detailed industry statistics were possible only from the large company partition; detailed industry statistics from the small company partition were not possible. Statistics from the small company partition are shown separately and are included in manufacturing, nonmanufacturing, and all industries totals. For more information, see "frame creation" and "sample selection" in the technical notes in Section B.

KEY: (D) = Data have been withheld to avoid disclosing operations of individual companies.
(S) = Indicates imputation of more than 50 percent.
(--) = Indicates data not collected.
(na) = Not applicable.

NOTE: Starting with the 1999 survey, estimates are based on the North American Industry Classification System (NAICS). In prior years, estimates were based on the Standard Industrial Classification (SIC) system. For this table, companies in the 1997 and 1998 surveys were assigned NAICS industry codes based on their SIC industry codes. Consequently, the estimates for 1997 and 1998 in this table are not necessarily representative of the NAICS categories of industries in those years. They are included for comparison purposes only.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-20. **Company and other non-Federal funds for industrial R&D performance in the U.S. as a percent of net sales of companies that performed industrial R&D in the U.S., by industry and size of company: 1997–2000**

Industry and size of company	NAICS codes	1997	1998	1999 [1]	2000
		[Percent]			
Distribution by industry:					
All industries [2]	21–23, 31–33, 42, 44–81	2.9	3.1	3.3	3.4
Manufacturing	31–33	--	--	3.2	3.3
Food	311	0.4	0.4	0.4	0.4
Beverage and tobacco products	312	0.8	0.6	(D)	0.7
Textiles, apparel, and leather	313–16	0.8	0.9	0.7	0.8
Wood products	321	0.4	0.4	0.5	0.8
Paper, printing and support activities	322, 323	1.4	1.0	1.4	1.6
Petroleum and coal products	324	0.5	0.8	(D)	0.3
Chemicals	325	5.5	6.2	5.1	5.9
Basic chemicals	3251	2.6	4.7	2.0	2.3
Resin, synthetic rubber, fibers, and filament	3252	3.5	3.9	4.2	5.6
Pharmaceuticals and medicines	3254	11.8	11.1	10.5	9.8
Other chemicals	325 (minus 3251–52, 3254)	2.9	4.0	3.2	3.6
Plastics and rubber products	326	1.3	2.0	1.9	1.8
Nonmetallic mineral products	327	1.9	(D)	1.5	1.8
Primary metals	331	0.6	0.5	0.4	0.5
Fabricated metal products	332	1.7	1.4	1.4	1.4
Machinery	333	3.1	3.1	3.3	3.8
Computer and electronic products	334	8.0	8.0	8.5	7.9
Computers and peripheral equipment	3341	7.7	7.2	6.4	6.5
Communications equipment	3342	6.9	9.9	11.6	9.6
Semiconductor and other electronic components	3344	9.1	8.6	8.3	7.4
Navigational, measuring, electromedical, and control instruments	3345	7.2	6.6	9.1	8.0
Other computer and electronic products	334 (minus 3341–42, 3344–45)	3.9	5.2	5.8	4.3
Electrical equipment, appliances, and components	335	2.9	2.7	2.3	2.1
Transportation equipment	336	3.5	2.4	2.9	3.1
Motor vehicles, trailers, and parts	3361–63	3.7	2.2	2.9	3.2
Aerospace products and parts	3364	3.3	2.9	3.2	2.8
Other transportation equipment	336 (minus 3361–64)	2.4	2.0	1.6	1.8
Furniture and related products	337	0.9	0.9	0.7	0.8
Miscellaneous manufacturing	339	5.9	6.7	5.7	8.7
Medical equipment and supplies	3391	8.3	9.4	7.7	13.1
Other miscellaneous manufacturing	339 (minus 3391)	1.8	2.4	2.3	2.3
Other manufacturing [3]	31–33 (minus 311–16, 321–27, 331–37, 339)	(S) 0.7	(D)	--	--
Small manufacturing companies [4]	Fewer than 50 employees	3.9	4.2	9.7	3.9

See explanatory information and SOURCE at end of table.

Table A-20. **Company and other non-Federal funds for industrial R&D performance in the U.S. as a percent of net sales of companies that performed industrial R&D in the U.S., by industry and size of company: 1997–2000**

Industry and size of company	NAICS codes	1997	1998	1999 [1]	2000
		[Percent]			
Distribution by industry:					
Nonmanufacturing	21–23, 42, 44–81	--	--	3.4	3.8
Mining, extraction, and support activities	21	0.7	0.9	1.9	1.0
Utilities	22	0.1	0.1	0.1	0.1
Construction	23	1.7	2.6	3.1	1.9
Trade	42, 44, 45	4.7	4.8	5.5	5.3
Transportation and warehousing	48, 49	0.3	0.3	0.5	0.3
Information	51	2.7	4.4	3.4	4.0
Publishing	511	11.6	13.2	13.4	16.3
Newspaper, periodical, book, and database	5111	1.2	1.3	2.0	2.0
Software	5112	19.2	19.8	16.7	20.4
Broadcasting and telecommunications	513	0.7	0.9	0.4	0.4
Radio and television broadcasting	5131	(D)	(D)	(D)	(D)
Telecommunications	5133	(D)	0.9	(D)	(D)
Other broadcasting and telecommunications	513 (minus 5131, 5133)	(D)	(D)	(D)	(D)
Other information	51 (minus 511, 513)	2.0	8.0	8.6	4.9
Finance, insurance, and real estate	52, 53	0.5	0.4	0.5	1.2
Professional, scientific, and technical services	54	10.4	11.0	11.6	14.9
Architectural, engineering, and related services	5413	3.3	4.2	6.8	7.1
Computer systems design and related services	5415	10.4	9.5	11.0	11.8
Scientific R&D services	5417	38.5	40.7	32.1	32.3
Other professional, scientific, and technical services	54 (minus 5413, 5415, 5417)	(S) 3.7	2.9	1.9	6.1
Management of companies and enterprises	55	7.9	28.5	5.7	4.4
Health care services	621–23	5.2	4.5	6.4	2.8
Other nonmanufacturing [3]	56, 61, 624, 71, 72, 81	0.8	2.2	0.9	1.0
Small nonmanufacturing companies [4]	Fewer than 15 employees	10.6	16.2	14.4	40.8

See explanatory information and SOURCE at end of table.

Table A-20. **Company and other non-Federal funds for industrial R&D performance in the U.S. as a percent of net sales of companies that performed industrial R&D in the U.S., by industry and size of company: 1997–2000**

Industry and size of company	NAICS codes	1997	1998	1999 [1]	2000
		[Percent]			
Distribution by size of company: [Number of employees]					
Total	(na)	2.9	3.1	3.3	3.4
5 to 24	(na)	9.5	8.5	16.6	17.2
25 to 49	(na)	7.6	7.8	10.6	13.4
50 to 99	(na)	7.8	8.1	13.0	11.2
100 to 249	(na)	5.0	8.0	6.9	8.0
250 to 499	(na)	4.3	5.5	5.9	6.1
500 to 999	(na)	2.8	3.0	4.0	4.7
1,000 to 4,999	(na)	2.6	3.0	3.1	3.5
5,000 to 9,999	(na)	2.4	1.8	2.2	2.2
10,000 to 24,999	(na)	2.5	2.7	2.8	3.1
25,000 or more	(na)	2.9	3.0	2.8	2.9

[1] Percentages for 1999 have been revised since originally published.

[2] The totals for "all industries" prior to 1999 are identical to corresponding totals previously published using the Standard Industrial Classification (SIC) system. Also, pre-1999 detail published using the North American Industry Classification System (NAICS) may not add to the totals. See the 'NOTES' below.

[3] Manufacturing companies in the 1997 and 1998 samples that could not be classified with a NAICS code are included in "other manufacturing;" nonmanufacturing companies that could not be classified with a NAICS code are included in "other nonmanufacturing."

[4] The frame from which the statistical sample was selected was divided into two partitions based on total company employment. In the manufacturing sector, companies with employment of 50 or more were included in the large company partition. In the nonmanufacturing sector, companies with employment of 15 or more were included in the large company partition. Companies in the respective sectors with employment below these values, but with at least 5 employees, were included in the small company partition. The purpose of partitioning the sample this way was to reduce the variability in industry estimates largely attributed to the random year-to-year selection of small companies by industry and the high sampling weights that sometimes were assigned to them. Because of this, detailed industry statistics were possible only from the large company partition; detailed industry statistics from the small company partition were not possible. Statistics from the small company partition are shown separately and are included in manufacturing, nonmanufacturing, and all industries totals. For more information, see "frame creation" and "sample selection" in the technical notes in Section B.

KEY: (D) = Data have been withheld to avoid disclosing operations of individual companies.
(S) = Indicates imputation of more than 50 percent.
(--) = Indicates data not collected.
(na) = Not applicable.

NOTES: Starting with the 1999 survey, estimates are based on the North American Industry Classification System (NAICS). In prior years, estimates were based on the Standard Industrial Classification (SIC) system. For this table, companies in the 1997 and 1998 surveys were assigned NAICS industry codes based on their SIC industry codes. Consequently, the estimates for 1997 and 1998 in this table are not necessarily representative of the NAICS categories of industries in those years. They are included for comparison purposes only.

The R&D in this table is the industrial R&D performed within company facilities funded from all sources except the Federal Government. The funds predominantly are the company's own, but also include funds from outside organizations such as other companies, research institutions, universities and colleges, nonprofit organizations, and State governments. Excluded from this table are company-funded R&D not performed within the company (e.g., R&D contracted out to other organizations) and company-funded R&D not performed in the U.S. (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations).

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-21. **Total (Federal plus company and other) funds for industrial R&D performance in the U.S. as a percent of net sales of companies that performed industrial R&D in the U.S., by industry and size of company, ranked by size of R&D program: 2000**

Industry and size of company	NAICS codes	Total (Federal plus company and other) R&D funds			Total (Federal plus company and other) R&D funds as a percent of net sales		
		First 4 companies	Next 4 companies	Next 12 companies	First 4 companies	Next 4 companies	Next 12 companies
		[In millions of dollars]			[Percent]		
Distribution by industry:							
All industries	21–23, 31–33, 42, 44–81	19,061	14,461	26,244	11.1	7.6	6.1
Manufacturing	31–33	19,061	12,397	22,108	11.1	5.5	5.5
Food	311	345	177	251	0.9	0.4	0.3
Beverage and tobacco products	312	408	6	0	0.8	0.3	0.0
Textiles, apparel, and leather	313–16	71	48	59	0.9	0.8	1.1
Wood products	321	89	6	4	1.1	0.2	0.3
Paper, printing and support activities	322, 323	2,251	208	181	3.7	0.9	0.4
Petroleum and coal products	324	1,018	99	9	0.5	0.1	0.1
Chemicals	325	6,213	4,282	5,208	10.8	11.7	6.4
Basic chemicals	3251	504	270	502	3.0	4.6	2.3
Resin, synthetic rubber, fibers, and filament	3252	2,462	277	108	6.7	4.0	1.9
Pharmaceuticals and medicines	3254	5,866	3,809	2,456	11.6	9.2	8.8
Other chemicals	325 (minus 3251–52, 3254)	2,052	322	355	6.6	2.4	3.0
Plastics and rubber products	326	609	210	260	3.5	1.7	2.2
Nonmetallic mineral products	327	512	96	108	3.4	1.4	1.3
Primary metals	331	298	82	103	0.5	0.7	0.5
Fabricated metal products	332	723	181	233	3.3	2.4	1.0
Machinery	333	1,995	741	1,183	6.6	4.9	4.7
Computer and electronic products	334	16,124	7,039	6,708	15.1	10.7	6.9
Computers and peripheral equipment	3341	3,143	945	508	9.1	15.7	3.6
Communications equipment	3342	8,614	873	848	12.0	8.5	7.0
Semiconductor and other electronic components	3344	(S) 7,151	1,487	2,069	11.1	4.7	11.5
Navigational, measuring, electromedical, and control instruments	3345	9,134	1,731	1,881	13.5	15.3	12.0
Other computer and electronic products	334 (minus 3341–42, 3344–45)	210	41	45	7.9	6.2	1.9

See explanatory information and SOURCE at end of table.

Table A-21. **Total (Federal plus company and other) funds for industrial R&D performance in the U.S. as a percent of net sales of companies that performed industrial R&D in the U.S., by industry and size of company, ranked by size of R&D program: 2000**

Industry and size of company	NAICS codes	Total (Federal plus company and other) R&D funds			Total (Federal plus company and other) R&D funds as a percent of net sales		
		First 4 companies	Next 4 companies	Next 12 companies	First 4 companies	Next 4 companies	Next 12 companies
		[In millions of dollars]			[Percent]		
Distribution by industry:							
Electrical equipment, appliances, and components	335	2,281	237	399	2.1	2.9	2.4
Transportation equipment	336	15,110	7,604	5,031	4.7	4.1	6.2
Motor vehicles, trailers, and parts	3361–63	14,517	2,439	760	3.8	5.0	2.0
Aerospace products and parts	3364	7,677	2,189	431	7.6	6.8	5.6
Other transportation equipment	336 (minus 3361–64)	868	234	98	4.5	2.7	1.2
Furniture and related products	337	(S) 138	56	45	1.1	0.9	0.6
Miscellaneous manufacturing	339	2,600	358	370	37.3	10.1	4.8
Medical equipment and supplies	3391	2,578	290	306	46.4	6.4	5.3
Other miscellaneous manufacturing	339 (minus 3391)	216	42	70	5.2	2.0	3.0
Other manufacturing	31–33 (minus 311–16, 321–27, 331–37, 339)	--	--	--	--	--	--
Small manufacturing companies [1]	Fewer than 50 employees	12	5	5	39.0	19.1	6.5
Nonmanufacturing	21–23, 42, 44–81	11,758	3,967	6,659	19.4	14.1	5.0
Mining, extraction, and support activities	21	635	112	60	1.9	0.4	0.8
Utilities	22	59	27	30	0.2	0.1	0.1
Construction	23	89	26	5	2.4	2.0	0.1
Trade	42, 44, 45	9,004	2,400	3,278	15.5	12.9	10.5
Transportation and warehousing	48, 49	184	17	10	0.4	0.1	0.1
Information	51	5,975	1,431	2,465	17.4	1.6	3.0
Publishing	511	5,316	1,107	1,869	22.2	23.9	15.7
Newspaper, periodical, book, and database	5111	241	20	6	2.7	0.3	0.6
Software	5112	5,316	1,107	1,860	22.2	23.9	25.9

See explanatory information and SOURCE at end of table.

Table A-21. **Total (Federal plus company and other) funds for industrial R&D performance in the U.S. as a percent of net sales of companies that performed industrial R&D in the U.S., by industry and size of company, ranked by size of R&D program: 2000**

Industry and size of company	NAICS codes	Total (Federal plus company and other) R&D funds				Total (Federal plus company and other) R&D funds as a percent of net sales		
		First 4 companies	Next 4 companies	Next 12 companies		First 4 companies	Next 4 companies	Next 12 companies
		[In millions of dollars]				[Percent]		
Distribution by industry:								
Broadcasting and telecommunications	513	(S)	1,083	187	101	0.6	0.2	10.2
Radio and television broadcasting	5131		(D)	0	0	3.3	0.0	0.0
Telecommunications	5133	(S)	909	137	45	0.4	0.3	4.9
Other broadcasting and telecommunications	513 (minus 5131, 5133)		31	0	0	100.0	0.0	0.0
Other information	51 (minus 511, 513)		1,364	228	219	3.9	8.1	4.7
Finance, insurance, and real estate	52, 53		975	447	329	1.1	1.7	0.7
Professional, scientific, and technical services	54	(S)	3,175	983	1,637	27.4	47.4	17.2
Architectural, engineering, and related services	5413		994	424	407	18.1	29.2	9.8
Computer systems design and related services	5415		395	288	525	13.3	27.5	5.7
Scientific R&D services	5417		2,961	859	1,171	26.2	36.3	57.8
Other professional, scientific, and technical services	54 (minus 5413, 5415, 5417)	(S)	210	57	45	14.9	0.8	1.3
Management of companies and enterprises	55		37	2	0	28.3	0.4	0.4
Health care services	621–23		46	22	22	0.9	1.3	0.7
Other nonmanufacturing	56, 61, 624, 71, 72, 81		272	106	120	2.2	3.9	0.4
Small nonmanufacturing companies [1]	Fewer than 15 employees		67	12	7	16.3	489.6	42.0

See explanatory information and SOURCE at end of table.

Table A-21. **Total (Federal plus company and other) funds for industrial R&D performance in the U.S. as a percent of net sales of companies that performed industrial R&D in the U.S., by industry and size of company, ranked by size of R&D program: 2000**

Industry and size of company	NAICS codes	Total (Federal plus company and other) R&D funds			Total (Federal plus company and other) R&D funds as a percent of net sales		
		First 4 companies	Next 4 companies	Next 12 companies	First 4 companies	Next 4 companies	Next 12 companies
		[In millions of dollars]			[Percent]		
Distribution by size of company: [Number of employees]							
Total	(na)	19,061	14,461	26,244	11.1	7.6	6.1
5 to 24	(na)	(S) 61	31	57	41.3	160.6	142.9
25 to 49	(na)	118	60	123	74.4	161.4	128.2
50 to 99	(na)	174	120	236	85.7	143.1	159.6
100 to 249	(na)	282	200	458	15.2	39.4	91.2
250 to 499	(na)	491	346	793	133.7	32.3	35.5
500 to 999	(na)	781	384	895	48.6	23.1	19.2
1,000 to 4,999	(na)	1,896	1,379	3,252	32.2	13.2	24.7
5,000 to 9,999	(na)	3,276	2,077	3,834	16.9	19.1	7.8
10,000 to 24,999	(na)	8,500	4,301	7,236	25.7	16.9	6.9
25,000 or more	(na)	19,061	13,983	23,754	11.1	6.8	5.2

[1] The frame from which the statistical sample was selected was divided into two partitions based on total company employment. In the manufacturing sector, companies with employment of 50 or more were included in the large company partition. In the nonmanufacturing sector, companies with employment of 15 or more were included in the large company partition. Companies in the respective sectors with employment below these values, but with at least 5 employees, were included in the small company partition. The purpose of partitioning the sample this way was to reduce the variability in industry estimates largely attributed to the random year-to-year selection of small companies by industry and the high sampling weights that sometimes were assigned to them. Because of this, detailed industry statistics were possible only from the large company partition; detailed industry statistics from the small company partition were not possible. Statistics from the small company partition are shown separately and are included in manufacturing, nonmanufacturing, and all industries totals. For more information, see "frame creation" and "sample selection" in the technical notes in Section B.

KEY: (S) = Indicates imputation of more than 50 percent.
(--) = Indicates data not collected.
(na) = Not applicable.

NOTE: Rankings were based on total (company, Federal, and other) R&D funds.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-22. **Company and other non-Federal funds for industrial R&D performance in the U.S. as a percent of net sales of companies that performed industrial R&D in the U.S., by industry and size of company, ranked by size of nonfederally funded R&D program: 2000**

Industry and size of company	NAICS codes	Company and other non-Federal R&D funds			Company and other non-Federal R&D funds as a percent of net sales		
		First 4 companies	Next 4 companies	Next 12 companies	First 4 companies	Next 4 companies	Next 12 companies
		[In millions of dollars]			[Percent]		
Distribution by industry:							
All industries	21–23, 31–33, 42, 44–81	18,551	13,356	22,189	9.5	7.3	5.2
Manufacturing	31–33	18,453	10,197	18,636	6.3	4.8	7.0
Food	311	345	177	250	0.9	0.4	0.3
Beverage and tobacco products	312	408	6	0	0.8	0.3	0.0
Textiles, apparel, and leather	313–16	71	48	59	0.9	0.8	1.1
Wood products	321	89	6	4	1.1	0.2	0.3
Paper, printing and support activities	322, 323	2,229	208	181	3.6	0.9	0.4
Petroleum and coal products	324	1,014	99	9	0.5	0.1	0.1
Chemicals	325	6,211	4,210	5,177	10.8	10.3	6.8
Basic chemicals	3251	490	267	497	3.5	3.2	2.2
Resin, synthetic rubber, fibers, and filament	3252	2,454	274	108	6.7	3.9	1.9
Pharmaceuticals and medicines	3254	5,866	3,809	2,454	11.6	9.2	8.8
Other chemicals	325 (minus 3251–52, 3254)	1,955	322	355	6.3	2.4	3.0
Plastics and rubber products	326	609	210	260	3.5	1.7	2.2
Nonmetallic mineral products	327	512	96	108	3.4	1.4	1.3
Primary metals	331	274	82	103	0.5	0.7	0.5
Fabricated metal products	332	723	165	214	3.3	2.1	0.9
Machinery	333	1,970	735	1,179	6.5	4.8	4.7
Computer and electronic products	334	14,290	4,985	6,016	11.7	12.7	5.6
Computers and peripheral equipment	3341	3,143	945	508	9.1	15.7	3.6
Communications equipment	3342	8,487	683	797	11.9	6.3	6.4
Semiconductor and other electronic components	3344	(S) 7,151	1,487	2,069	11.1	4.7	11.5
Navigational, measuring, electromedical, and control instruments	3345	4,879	1,466	1,625	7.2	12.0	10.7
Other computer and electronic products	334 (minus 3341–42, 3344–45)	209	41	45	7.9	6.2	1.9

See explanatory information and SOURCE at end of table.

Table A-22. **Company and other non-Federal funds for industrial R&D performance in the U.S. as a percent of net sales of companies that performed industrial R&D in the U.S., by industry and size of company, ranked by size of nonfederally funded R&D program: 2000**

Industry and size of company	NAICS codes	Company and other non-Federal R&D funds			Company and other non-Federal R&D funds as a percent of net sales		
		First 4 companies	Next 4 companies	Next 12 companies	First 4 companies	Next 4 companies	Next 12 companies
		[In millions of dollars]			[Percent]		
Distribution by industry:							
Electrical equipment, appliances, and components	335	2,067	237	399	1.9	2.9	2.4
Transportation equipment	336	14,361	4,409	2,210	3.7	3.5	2.8
Motor vehicles, trailers, and parts	3361–63	14,361	2,439	760	3.7	5.0	2.0
Aerospace products and parts	3364	3,043	631	200	2.7	2.9	3.1
Other transportation equipment	336 (minus 3361–64)	424	132	77	2.0	1.9	0.9
Furniture and related products	337	(S) 138	56	45	1.1	0.9	0.6
Miscellaneous manufacturing	339	2,600	358	370	37.3	10.1	4.8
Medical equipment and supplies	3391	2,578	290	306	46.4	6.4	5.3
Other miscellaneous manufacturing	339 (minus 3391)	216	42	70	5.2	2.0	3.0
Other manufacturing	31–33 (minus 311–16, 321–27, 331–37, 339)	--	--	--	--	--	--
Small manufacturing companies [1]	Fewer than 50 employees	12	5	5	39.0	19.1	5.5
Nonmanufacturing	21–23, 42, 44–81	11,531	3,585	5,563	19.5	11.7	4.1
Mining, extraction, and support activities	21	635	112	60	1.9	0.4	0.8
Utilities	22	42	27	28	0.1	0.1	0.1
Construction	23	89	26	5	2.4	2.0	0.1
Trade	42, 44, 45	8,994	2,399	3,277	15.5	12.9	10.5
Transportation and warehousing	48, 49	184	17	9	0.4	0.1	0.1
Information	51	5,955	1,321	2,325	17.3	1.5	3.1
Publishing	511	5,316	1,107	1,869	22.2	23.9	15.7
Newspaper, periodical, book, and database	5111	241	20	6	2.7	0.3	0.6
Software	5112	5,316	1,107	1,860	22.2	23.9	25.9

See explanatory information and SOURCE at end of table.

Table A-22. **Company and other non-Federal funds for industrial R&D performance in the U.S. as a percent of net sales of companies that performed industrial R&D in the U.S., by industry and size of company, ranked by size of nonfederally funded R&D program: 2000**

Industry and size of company	NAICS codes	Company and other non-Federal R&D funds			Company and other non-Federal R&D funds as a percent of net sales		
		First 4 companies	Next 4 companies	Next 12 companies	First 4 companies	Next 4 companies	Next 12 companies
		[In millions of dollars]			[Percent]		
Distribution by industry:							
Broadcasting and telecommunications	513	784	136	70	0.3	0.3	2.0
Radio and television broadcasting	5131	(D)	0	0	0.4	0.0	0.0
Telecommunications	5133	784	123	24	0.3	0.3	0.8
Other broadcasting and telecommunications	513 (minus 5131, 5133)	31	0	0	100.0	0.0	0.0
Other information	51 (minus 511, 513)	1,344	228	212	3.8	8.1	4.6
Finance, insurance, and real estate	52, 53	975	447	329	1.1	1.7	0.7
Professional, scientific, and technical services	54	1,413	832	1,458	12.4	44.1	19.5
Architectural, engineering, and related services	5413	662	306	199	19.0	9.0	4.6
Computer systems design and related services	5415	395	288	500	13.3	27.5	5.5
Scientific R&D services	5417	1,413	755	1,075	12.4	36.7	53.6
Other professional, scientific, and technical services	54 (minus 5413, 5415, 5417)	188	55	44	13.5	0.8	1.2
Management of companies and enterprises	55	37	2	0	28.3	0.3	0.4
Health care services	621–23	44	22	20	0.8	0.9	0.8
Other nonmanufacturing	56, 61, 624, 71, 72, 81	272	106	106	2.2	3.9	0.4
Small nonmanufacturing companies [1]	Fewer than 15 employees	67	12	6	16.3	535.0	33.2

See explanatory information and SOURCE at end of table.

Table A-22. **Company and other non-Federal funds for industrial R&D performance in the U.S. as a percent of net sales of companies that performed industrial R&D in the U.S., by industry and size of company, ranked by size of nonfederally funded R&D program: 2000**

Industry and size of company	NAICS codes	Company and other non-Federal R&D funds			Company and other non-Federal R&D funds as a percent of net sales		
		First 4 companies	Next 4 companies	Next 12 companies	First 4 companies	Next 4 companies	Next 12 companies
		[In millions of dollars]			[Percent]		
Distribution by size of company: [Number of employees]							
Total	(na)	18,551	13,356	22,189	9.5	7.3	5.2
5 to 24	(na)	(S) 61	31	53	41.3	160.6	154.3
25 to 49	(na)	118	60	119	74.4	161.4	137.3
50 to 99	(na)	174	114	223	85.7	232.0	141.8
100 to 249	(na)	282	200	449	15.2	39.4	90.5
250 to 499	(na)	491	346	742	133.6	32.3	34.3
500 to 999	(na)	781	378	844	48.6	20.5	17.7
1,000 to 4,999	(na)	1,780	1,355	3,123	26.9	13.6	23.9
5,000 to 9,999	(na)	2,922	1,862	3,404	13.7	12.7	7.7
10,000 to 24,999	(na)	8,500	4,301	7,230	25.7	16.9	6.9
25,000 or more	(na)	18,551	12,494	18,978	9.5	6.3	4.5

[1] The frame from which the statistical sample was selected was divided into two partitions based on total company employment. In the manufacturing sector, companies with employment of 50 or more were included in the large company partition. In the nonmanufacturing sector, companies with employment of 15 or more were included in the large company partition. Companies in the respective sectors with employment below these values, but with at least 5 employees, were included in the small company partition. The purpose of partitioning the sample this way was to reduce the variability in industry estimates largely attributed to the random year-to-year selection of small companies by industry and the high sampling weights that sometimes were assigned to them. Because of this, detailed industry statistics were possible only from the large company partition; detailed industry statistics from the small company partition were not possible. Statistics from the small company partition are shown separately and are included in manufacturing, nonmanufacturing, and all industries totals. For more information, see "frame creation" and "sample selection" in the technical notes in Section B.

KEY: (D) = Data have been withheld to avoid disclosing operations of individual companies.
(S) = Indicates imputation of more than 50 percent.
(--) = Indicates data not collected.
(na) = Not applicable.

NOTES: The R&D in this table is the industrial R&D performed within company facilities funded from all sources except the Federal Government. The funds predominantly are the company's own, but also include funds from outside organizations such as other companies, research institutions, universities and colleges, nonprofit organizations, and State governments. Excluded from this table are company-funded R&D not performed within the company (e.g., R&D contracted out to other organizations) and company-funded R&D not performed in the U.S. (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations).

Rankings were based on company and other R&D funds.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-23. **Federal funds for industrial R&D performance in the U.S. as a percent of net sales of companies that performed industrial R&D in the U.S., by industry and size of company, ranked by size of federally funded R&D program: 2000**

Industry and size of company	NAICS codes	Federal R&D funds			Federal R&D funds as a percent of net sales		
		First 4 companies	Next 4 companies	Next 12 companies	First 4 companies	Next 4 companies	Next 12 companies
		[In millions of dollars]			[Percent]		
Distribution by industry:							
All industries	21–23, 31–33, 42, 44–81	8,283	(S) 3,121	2,823	14.6	3.7	1.0
Manufacturing	31–33	(D)	(D)	(D)	14.6	2.4	0.7
Food	311	(D)	0	0	0.0	0.0	0.0
Beverage and tobacco products	312	0	0	0	0.0	0.0	0.0
Textiles, apparel, and leather	313–16	(D)	0	0	0.0	0.0	0.0
Wood products	321	0	0	0	0.0	0.0	0.0
Paper, printing and support activities	322, 323	(D)	0	0	0.1	0.0	0.0
Petroleum and coal products	324	(D)	0	0	0.0	0.0	0.0
Chemicals	325	121	14	9	0.5	0.3	0.0
Basic chemicals	3251	26	(S) 5	0	0.3	0.1	0.0
Resin, synthetic rubber, fibers, and filament	3252	11	0	0	0.0	0.0	0.0
Pharmaceuticals and medicines	3254	(D)	0	0	0.1	0.0	0.0
Other chemicals	325 (minus 3251–52, 3254)	98	0	0	0.5	0.0	0.0
Plastics and rubber products	326	(D)	0	0	0.2	0.0	0.0
Nonmetallic mineral products	327	1	0	0	0.0	0.0	0.0
Primary metals	331	(S) 26	(D)	0	0.1	0.0	0.0
Fabricated metal products	332	40	1	0	1.5	0.0	0.0
Machinery	333	34	4	0	0.2	0.1	0.0
Computer and electronic products	334	4,847	339	273	13.0	1.2	9.4
Computers and peripheral equipment	3341	0	0	0	0.0	0.0	0.0
Communications equipment	3342	409	(S) 23	0	1.6	0.1	0.0
Semiconductor and other electronic components	3344	99	9	0	11.1	0.0	0.0
Navigational, measuring, electromedical, and control instruments	3345	4,754	163	28	12.0	23.7	0.5
Other computer and electronic products	334 (minus 3341–42, 3344–45)	2	0	0	0.2	0.0	0.0

See explanatory information and SOURCE at end of table.

Table A-23. **Federal funds for industrial R&D performance in the U.S. as a percent of net sales of companies that performed industrial R&D in the U.S., by industry and size of company, ranked by size of federally funded R&D program: 2000**

Industry and size of company	NAICS codes	Federal R&D funds			Federal R&D funds as a percent of net sales		
		First 4 companies	Next 4 companies	Next 12 companies	First 4 companies	Next 4 companies	Next 12 companies
		[In millions of dollars]			[Percent]		
Distribution by industry:							
Electrical equipment, appliances, and components	335	(D)	(D)	0	0.3	0.0	0.0
Transportation equipment	336	5,439	1,012	699	5.4	3.1	0.4
Motor vehicles, trailers, and parts	3361–63	172	1	0	0.1	0.0	0.0
Aerospace products and parts	3364	5,439	882	103	5.4	3.1	0.9
Other transportation equipment	336 (minus 3361–64)	548	(D)	0	3.4	0.8	0.0
Furniture and related products	337	0	0	0	0.0	0.0	0.0
Miscellaneous manufacturing	339	11	0	0	5.5	0.0	0.0
Medical equipment and supplies	3391	11	0	0	5.5	0.0	0.0
Other miscellaneous manufacturing	339 (minus 3391)	(D)	0	0	0.0	0.0	0.0
Other manufacturing	31–33 (minus 311–16, 321–27, 331–37, 339)	--	--	--	--	--	--
Small manufacturing companies [1]	Fewer than 50 employees	1	0	0	2.0	0.0	0.0
Nonmanufacturing	21–23, 42, 44–81	(S) 2,256	351	502	14.0	0.4	14.6
Mining, extraction, and support activities	21	1	0	0	0.0	0.0	0.0
Utilities	22	(D)	0	0	0.1	0.0	0.0
Construction	23	(D)	0	0	0.0	0.0	0.0
Trade	42, 44, 45	12	0	0	0.0	0.0	0.0
Transportation and warehousing	48, 49	(D)	0	0	0.0	0.0	0.0
Information	51	(S) 386	37	9	0.4	0.1	0.1
Publishing	511	22	2	0	3.8	3.5	0.0
Newspaper, periodical, book, and database	5111	0	0	0	0.0	0.0	0.0
Software	5112	22	2	0	3.8	4.0	0.0

See explanatory information and SOURCE at end of table.

Table A-23. **Federal funds for industrial R&D performance in the U.S. as a percent of net sales of companies that performed industrial R&D in the U.S., by industry and size of company, ranked by size of federally funded R&D program: 2000**

Industry and size of company	NAICS codes	Federal R&D funds			Federal R&D funds as a percent of net sales		
		First 4 companies	Next 4 companies	Next 12 companies	First 4 companies	Next 4 companies	Next 12 companies
		[In millions of dollars]			[Percent]		
Distribution by industry:							
Broadcasting and telecommunications	513	(S) 381	(D)	0	0.2	0.2	0.0
Radio and television broadcasting	5131	(D)	0	0	2.9	0.0	0.0
Telecommunications	5133	(S) 160	0	0	0.1	0.0	0.0
Other broadcasting and telecommunications	513 (minus 5131, 5133)	0	0	0	0.0	0.0	0.0
Other information	51 (minus 511, 513)	27	0	0	0.2	0.0	0.0
Finance, insurance, and real estate	52, 53	0	0	0	0.0	0.0	0.0
Professional, scientific, and technical services	54	(S) 2,128	275	428	24.0	10.2	43.6
Architectural, engineering, and related services	5413	(S) 538	137	(S) 188	17.1	55.0	21.2
Computer systems design and related services	5415	99	28	29	36.2	45.2	0.5
Scientific R&D services	5417	1,865	144	291	22.1	36.2	36.5
Other professional, scientific, and technical services	54 (minus 5413, 5415, 5417)	28	0	0	7.5	0.0	0.0
Management of companies and enterprises	55	0	0	0	0.1	0.0	0.0
Health care services	621–23	5	1	0	1.2	0.0	0.0
Other nonmanufacturing	56, 61, 624, 71, 72, 81	16	0	0	1.9	0.0	0.0
Small nonmanufacturing companies [1]	Fewer than 15 employees	2	0	0	56.9	0.1	0.0

See explanatory information and SOURCE at end of table.

Table A-23. **Federal funds for industrial R&D performance in the U.S. as a percent of net sales of companies that performed industrial R&D in the U.S., by industry and size of company, ranked by size of federally funded R&D program: 2000**

Industry and size of company	NAICS codes	Federal R&D funds			Federal R&D funds as a percent of net sales		
		First 4 companies	Next 4 companies	Next 12 companies	First 4 companies	Next 4 companies	Next 12 companies
		[In millions of dollars]			[Percent]		
Distribution by size of company: [Number of employees]							
Total	(na)	8,283	(S) 3,121	2,823	14.6	3.7	1.0
5 to 24	(na)	13	8	11	67.8	83.6	60.9
25 to 49	(na)	26	18	29	110.8	85.6	44.0
50 to 99	(na)	73	(S) 45	86	87.6	70.8	56.8
100 to 249	(na)	107	66	129	91.7	78.4	65.7
250 to 499	(na)	193	118	212	64.6	46.9	46.4
500 to 999	(na)	248	(S) 153	91	50.6	24.5	6.1
1,000 to 4,999	(na)	(S) 535	127	75	33.0	17.2	0.8
5,000 to 9,999	(na)	1,528	(S) 71	26	34.2	1.3	0.1
10,000 to 24,999	(na)	557	91	29	4.8	0.7	0.0
25,000 or more	(na)	8,283	(S) 2,614	1,591	14.6	2.8	0.4

[1] The frame from which the statistical sample was selected was divided into two partitions based on total company employment. In the manufacturing sector, companies with employment of 50 or more were included in the large company partition. In the nonmanufacturing sector, companies with employment of 15 or more were included in the large company partition. Companies in the respective sectors with employment below these values, but with at least 5 employees, were included in the small company partition. The purpose of partitioning the sample this way was to reduce the variability in industry estimates largely attributed to the random year-to-year selection of small companies by industry and the high sampling weights that sometimes were assigned to them. Because of this, detailed industry statistics were possible only from the large company partition; detailed industry statistics from the small company partition were not possible. Statistics from the small company partition are shown separately and are included in manufacturing, nonmanufacturing, and all industries totals. For more information, see "frame creation" and "sample selection" in the technical notes in Section B.

KEY: (D) = Data have been withheld to avoid disclosing operations of individual companies.
(S) = Indicates imputation of more than 50 percent.
(--) = Indicates data not collected.
(na) = Not applicable.

NOTE: Rankings were based on Federal R&D funds.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-24. **Total, Federal, company and other funds for industrial energy R&D performance in the U.S. and number of companies that performed energy R&D in the U.S., by selected industry and size of company: 2000 and projected 2001**

Industry and size of company	NAICS codes	Number of companies	2000			Projected 2001		
			Total	Federal	Company	Total	Federal	Company
			[In millions of dollars]			[In millions of dollars]		
Distribution by industry:								
All industries	21–23, 31–33, 42, 44–81	45	1,294	(S) 143	1,151	1,033	(S) 128	905
Manufacturing	31–33	28	923	(S) 114	810	810	(D)	(D)
Petroleum and coal products	324	4	291	0	291	284	0	284
Chemicals	325	2	(D)	(D)	(D)	(D)	(D)	(D)
Machinery	333	2	(D)	0	(D)	(D)	0	(D)
Computer and electronic products	334	2	(D)	(D)	(D)	(D)	0	(D)
Electrical equipment, appliances, and components	335	3	(D)	(D)	(D)	(D)	(D)	(D)
Transportation equipment	336	4	299	(D)	(D)	(D)	(D)	(D)
All other manufacturing	--	11	(D)	(D)	(D)	(D)	(D)	(D)
Nonmanufacturing	21–23, 42, 44–81	17	370	29	341	223	(D)	(D)
Mining, extraction, and support activities	21	3	(D)	(D)	(D)	(D)	(D)	(D)
All other nonmanufacturing	--	14	(D)	(D)	(D)	(D)	(D)	(D)
Distribution by size of company: [Number of employees]								
Total	(na)	45	1,294	(S) 143	1,151	1,033	(S) 128	905
5 to 24	(na)	0	0	0	0	0	0	0
25 to 49	(na)	0	0	0	0	(D)	0	(D)
50 to 99	(na)	2	(D)	0	(D)	(D)	0	(D)
100 to 249	(na)	2	(D)	(D)	(D)	(D)	0	(D)
250 to 499	(na)	3	(D)	(D)	(D)	(D)	(D)	(D)
500 to 999	(na)	1	(D)	0	(D)	0	0	0
1,000 to 4,999	(na)	8	58	(D)	(D)	(D)	(D)	(D)
5,000 to 9,999	(na)	9	90	(D)	(D)	(D)	(D)	(D)
10,000 to 24,999	(na)	8	208	(D)	(D)	217	0	217
25,000 or more	(na)	12	894	(S) 124	770	689	(S) 119	570

KEY: (D) = Data have been withheld to avoid disclosing operations of individual companies.
(S) = Indicates imputation of more than 50 percent.
(--) = All NAICS codes other than those specified.
(na) = Not applicable.

NOTES: Energy R&D data are collected only on Form RD-1, the questionnaire sent to larger R&D-performing companies. Consequently, the universe of companies that performs energy R&D may not be represented by the statistics in this table.

The company R&D in this table is the industrial R&D performed within company facilities funded from all sources except the Federal Government. The funds predominantly are the company's own, but also include funds from outside organizations such as other companies, research institutions, universities and colleges, nonprofit organizations, and State governments. Excluded from this table are company-funded R&D not performed within the company (e.g., R&D contracted out to other organizations) and company-funded R&D not performed in the U.S. (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations).

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-25. **Total, Federal, company and other funds for industrial energy R&D performance in the U.S. and number of companies that performed energy R&D in the U.S., by primary energy source: 2000 and projected 2001**

Primary energy source	Number of companies [1]	2000			Projected 2001		
		Total	Federal	Company	Total	Federal	Company
		[In millions of dollars]			[In millions of dollars]		
Total	45	1,294	(S) 143	1,151	1,033	(S) 128	905
Fossil fuels	20	840	34	806	687	(D)	(D)
Nuclear	5	32	(D)	(D)	(D)	0	(D)
Total geothermal, solar, and conservation and utilization	15	240	7	233	(D)	8	(D)
All other energy	24	(S) 182	(D)	(D)	(S) 152	(D)	(D)

[1] Detail does not add to total because categories are not mutually exclusive.

KEY: (D) = Data have been withheld to avoid disclosing operations of individual companies.
(S) = Indicates imputation of more than 50 percent.

NOTES: Energy R&D data are collected only on Form RD-1, the questionnaire sent to larger R&D-performing companies. Consequently, the universe of companies that performs energy R&D may not be represented by the statistics in this table.

The company R&D in this table is the industrial R&D performed within company facilities funded from all sources except the Federal Government. The funds predominantly are the company's own, but also include funds from outside organizations such as other companies, research institutions, universities and colleges, nonprofit organizations, and State governments. Excluded from this table are company-funded R&D not performed within the company (e.g., R&D contracted out to other organizations) and company-funded R&D not performed in the U.S. (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations).

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-26. **Total (Federal plus company and other) funds for industrial R&D performance in the U.S., by state in selected years: 1981–2000**

State	1981	1983	1985	1987	1989 [1]	1991 [1,2]	1993 [2]	1995 [2]	1997 [2]	1998 [2]	1999 [2,3]	2000 [2]
	[In millions of dollars]											
United States, total	51,810	65,268	84,239	92,155	102,055	116,952	117,400	132,103	157,539	169,180	182,711	199,539
Alabama	100	187	(S)	1,523	430	596	(S) 557	686	(S) 589	707	556	607
Alaska	(T)	(T)	(D)	10	9	21	14	30	(S) 24	189	(D)	(S) 9
Arizona	758	(T)	1,079	809	921	1,080	1,039	(S) 1,356	1,854	1,727	4,434	2,445
Arkansas	52	(T)	(D)	129	51	(S)	179	181	118	118	216	273
California	7,626	(T)	(S)	18,636	23,781	(S)	21,975	28,710	34,011	35,568	39,047	45,769
Colorado	529	741	988	1,207	1,167	(S)	1,966	1,865	2,248	3,565	3,136	3,140
Connecticut	1,514	1,682	2,129	2,121	2,421	1,756	2,228	3,906	3,014	3,113	(S) 3,984	(S) 4,371
Delaware	(T)	(T)	(D)	(D)	(D)	(D)	(S) 913	(S) 1,077	(S) 1,009	2,476	(S) 1,261	(S) 1,444
District of Columbia	(T)	(T)	(D)	(D)	(D)	46	(S) 515	(S) 672	(D)	(S) 503	171	112
Florida	1,449	(T)	1,973	2,041	2,352	(S)	2,386	4,101	3,442	3,300	(S) 2,697	3,212
Georgia	220	348	(D)	958	722	993	792	1,175	1,273	1,444	1,827	1,579
Hawaii	(T)	(T)	13	70	9	13	255	14	87	(S) 17	27	154
Idaho	(T)	(T)	451	467	(D)	(S)	686	827	(S) 1,181	(S) 1,028	1,210	1,338
Illinois	2,077	2,291	(D)	4,099	4,068	5,750	5,023	(S) 5,776	6,248	6,892	7,603	10,661
Indiana	1,054	(T)	(D)	1,860	1,823	2,274	2,141	(S) 2,721	2,677	(S) 2,622	(S) 2,246	(S) 2,668
Iowa	393	287	(D)	328	365	527	505	998	578	634	559	538
Kansas	211	293	(D)	1,128	406	(S)	(S) 280	569	(S) 1,136	(S) 1,279	(S) 1,284	(S) 1,140
Kentucky	170	191	(D)	238	227	176	282	452	359	427	684	582
Louisiana	158	257	(D)	128	169	(S)	106	61	172	102	187	126
Maine	(T)	(T)	(D)	39	33	(S)	(D)	286	83	82	140	201
Maryland	(T)	(T)	1,548	1,292	1,093	1,376	1,296	1,075	1,425	1,744	1,700	2,032
Massachusetts	1,907	2,466	4,495	5,255	5,851	(S)	5,960	7,416	8,300	10,604	9,314	9,863
Michigan	4,272	5,716	6,436	7,095	8,506	9,283	18,845	12,388	13,009	12,648	17,714	(S) 17,640
Minnesota	1,180	1,814	(D)	2,145	2,075	2,070	2,341	(S) 2,636	3,116	3,321	3,379	(S) 3,722
Mississippi	(T)	(T)	62	42	56	(S)	51	66	73	73	114	101
Missouri	1,137	(T)	(D)	1,823	2,391	(S)	(S) 1,339	(S) 2,028	(S) 1,290	(S) 1,313	(S) 1,387	1,893
Montana	(T)	(T)	(D)	7	(D)	(S)	(D)	17	92	82	33	(S) 28
Nebraska	28	26	(D)	59	64	67	93	150	71	93	178	2,253
Nevada	(T)	(T)	(S)	55	29	95	65	322	380	434	337	248
New Hampshire	(T)	(T)	(D)	90	(D)	(D)	247	472	652	1,187	1,099	586

See explanatory information at end of table.

Table A-26. **Total (Federal plus company and other) funds for industrial R&D performance in the U.S., by state in selected years: 1981–2000**

State	1981	1983	1985	1987	1989 [1]	1991 [1,2]	1993 [2]	1995 [2]	1997 [2]	1998 [2]	1999 [2,3]	2000 [2]
	[In millions of dollars]											
New Jersey	3,355	4,364	5,975	5,876	6,410	8,933	8,009	8,200	11,069	10,415	9,453	12,062
New Mexico	(T)	(T)	(D)	950	1,039	1,217	(D)	1,461	(S) 1,310	(S) 1,205	(S) 1,342	(S) 1,158
New York	4,057	5,951	7,561	6,276	8,107	9,457	8,597	8,651	(S) 9,939	11,176	11,388	10,539
North Carolina	546	786	(D)	1,666	1,311	1,470	1,886	2,226	3,590	3,362	3,953	3,672
North Dakota	(T)	(T)	10	57	(S)	(S)	(D)	12	33	34	75	(S) 51
Ohio	1,781	2,282	3,067	3,415	3,964	5,406	4,494	4,001	5,608	5,338	6,514	5,962
Oklahoma	339	407	(D)	367	333	448	299	288	428	245	365	333
Oregon	(T)	(T)	(D)	281	357	(S)	455	741	1,102	1,492	1,540	1,651
Pennsylvania	3,003	3,963	3,844	4,430	4,653	(S)	4,652	5,331	(S) 6,609	7,083	8,932	7,873
Rhode Island	87	171	213	224	140	174	154	520	(S) 704	(S) 1,320	(S) 1,264	(S) 1,090
South Carolina	(T)	(T)	(D)	500	388	479	461	739	(S) 783	695	665	781
South Dakota	(T)	(T)	(S)	4	4	6	(D)	19	26	5	13	44
Tennessee	(T)	(T)	(D)	621	934	843	788	1,003	1,089	2,040	1,768	(S) 1,215
Texas	(T)	(T)	3,762	4,077	5,051	5,439	4,562	(S) 6,211	7,265	8,408	9,935	8,961
Utah	265	242	(D)	774	389	407	279	803	1,027	1,109	1,123	979
Vermont	(T)	(T)	(D)	236	(D)	(D)	(D)	248	246	112	318	396
Virginia	539	941	862	1,284	1,131	1,275	1,046	1,577	1,767	2,707	2,488	2,718
Washington	(T)	(T)	2,351	2,939	2,728	3,677	(S) 4,575	(S) 4,294	(S) 6,610	(S) 7,476	(S) 7,231	(S) 9,265
West Virginia	(T)	(T)	(D)	83	(D)	(D)	(S) 100	243	(D)	(S) 225	(S) 216	235
Wisconsin	558	(T)	728	1,165	1,035	1,304	1,296	1,706	1,707	1,919	1,949	1,981
Wyoming	(T)	2	3	4	(D)	2	15	25	28	(S) 2	(D)	7
Undistributed funds	(T)	3,931	1,495	2,281	2,945	772	683	(S) 1,773	(S) 7,211	(S) 5,520	(S) 5,026	(S) 9,831

[1] As a result of a new sample design, statistics for 1989–91 have been revised since originally published. These statistics now better reflect R&D performance among firms in the nonmanufacturing industries and small firms in all industries. For more information, see the technical notes in Section B.

[2] As a result of the new sample design, statistics for 1991 and later years are not directly comparable with statistics for 1990 and earlier years.

[3] Some statistics for 1999 have been revised since originally published.

KEY: (D) = Data have been withheld to avoid disclosing information about individual companies.
(S) = Indicates imputation of more than 50 percent. For years prior to 1993, data have been withheld.
(T) = Data are not separately available but included in total.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-27. **Total (Federal plus company and other) funds for industrial R&D performance in the U.S. and number of companies that performed R&D in the U.S., by state and source of funds: 2000**

State	Number of companies [1]	Total	Federal	Company
		[In millions of dollars]		
United States, total	35,304	199,539	19,118	180,421
Alabama	354	607	184	423
Alaska	10	(S) 9	(D)	(D)
Arizona	1,069	2,445	(S) 153	2,292
Arkansas	98	273	(D)	(D)
California	6,634	45,769	(S) 4,229	41,540
Colorado	1,212	3,140	(D)	(D)
Connecticut	424	(S) 4,371	127	4,244
Delaware	48	(S) 1,444	7	1,437
District of Columbia	17	112	(S) 46	67
Florida	1,392	3,212	498	2,714
Georgia	855	1,579	83	1,496
Hawaii	84	154	115	38
Idaho	217	1,338	(D)	(D)
Illinois	1,523	10,661	(S) 37	10,624
Indiana	408	(S) 2,668	75	2,593
Iowa	347	538	(D)	(D)
Kansas	333	(S) 1,140	(D)	(D)
Kentucky	199	582	1	581
Louisiana	198	126	1	125
Maine	135	201	53	148
Maryland	774	2,032	428	1,604
Massachusetts	1,168	9,863	(S) 1,831	8,032
Michigan	1,335	(S) 17,640	(S) 80	17,559
Minnesota	1,260	(S) 3,722	173	3,550
Mississippi	49	101	(S) 19	83
Missouri	646	1,893	18	1,876
Montana	104	(S) 28	(D)	(D)
Nebraska	577	2,253	(D)	(D)
Nevada	25	248	(D)	(D)
New Hampshire	371	586	(D)	(D)
New Jersey	1,538	12,062	253	11,809
New Mexico	107	(S) 1,158	(D)	(D)
New York	2,331	10,539	(S) 1,773	8,766
North Carolina	875	3,672	30	3,641
North Dakota	161	(S) 51	(D)	(D)
Ohio	1,751	5,962	539	5,423
Oklahoma	457	333	3	331
Oregon	1,152	1,651	7	1,644
Pennsylvania	1,774	7,873	(S) 460	7,412
Rhode Island	110	(S) 1,090	(D)	(D)

See explanatory information and SOURCE at end of table.

Table A-27. **Total (Federal plus company and other) funds for industrial R&D performance in the U.S. and number of companies that performed R&D in the U.S., by state and source of funds: 2000**

State	Number of companies [1]	Total	Federal	Company
		[In millions of dollars]		
South Carolina	103	781	(D)	(D)
South Dakota	64	44	16	28
Tennessee	350	(S) 1,215	(D)	(D)
Texas	2,062	8,961	230	8,731
Utah	200	979	(D)	(D)
Vermont	216	396	(D)	(D)
Virginia	1,100	2,718	800	1,918
Washington	953	(S) 9,265	(D)	(D)
West Virginia	20	235	(D)	(D)
Wisconsin	908	1,981	(S) 18	1,963
Wyoming	5	7	0	7
Undistributed funds [2]	225	(S) 9,831	(S) 999	8,832

[1] Detail does not add to total because categories are not mutually exclusive.

[2] Includes data reported on Form RD-1 that were not allocated to a specific state.

KEY: (D) = Data have been withheld to avoid disclosing operations of individual companies.
(S) = Indicates imputation of more than 50 percent.

NOTE: The company R&D in this table is the industrial R&D performed within company facilities funded from all sources except the Federal Government. The funds predominantly are the company's own, but also include funds from outside organizations such as other companies, research institutions, universities and colleges, nonprofit organizations, and State governments. Excluded from this table are company-funded R&D not performed within the company (e.g., R&D contracted out to other organizations) and company-funded R&D not performed in the U.S. (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations).

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-28. **Total (Federal plus company and other) funds for industrial R&D performance in the U.S. and number of R&D-performing companies in the U.S., by industry and size of company, for the U.S. and top 10 R&D-performing states: 2000**

Industry and size of company	NAICS codes	Number of companies	U.S., total	California	Michigan	New Jersey	Illinois	New York	Massa-chusetts	Wash-ington	Texas	Penn-sylvania	Ohio	All other states plus undistributed
			[In millions of dollars]											
Distribution by industry:														
All industries	21–23, 31–33, 42, 44–81	35,273	199,539	45,768	(S) 17,640	12,062	10,661	10,539	9,863	(S) 9,265	8,961	7,873	5,962	60,946
Manufacturing	31–33	17,176	124,078	24,769	(S) 15,674	7,470	(S) 6,380	6,909	(S) 5,893	(S) 3,050	(S) 5,220	(S) 5,393	3,910	39,411
Food	311	301	(D)	(S) 28	(D)	95	101	(D)	(D)	(D)	7	40	(S) 2	655
Beverage and tobacco products	312	7	417	5	4	0	(D)	0	0	(D)	0	0	0	226
Textiles, apparel, and leather	313–16	256	(D)	16	(D)	0	1	19	24	(D)	2	6	(D)	188
Wood products	321	40	105	(D)	(D)	0	0	0	0	(D)	0	(D)	0	36
Paper, printing and support activities	322, 323	292	(D)	(D)	(D)	(D)	29	(S) 120	(D)	(D)	(D)	(S) 10	(D)	1,325
Petroleum and coal products	324	44	(D)	(D)	0	(D)	49	0	0	0	255	6	(D)	342
Chemicals	325	684	20,918	1,343	1,147	3,033	(S) 1,817	1,974	761	(D)	479	(S) 2,594	(D)	7,308
Basic chemicals	3251	136	2,080	385	(S) 3	(D)	148	(S) 58	(D)	(D)	117	(D)	89	704
Resin, synthetic rubber, fibers, and filament	3252	58	2,852	(D)	406	(D)	21	(D)	(D)	(D)	(D)	(D)	(D)	1,583
Pharmaceuticals and medicines	3254	135	(D)	(D)	(D)	2,277	(S) 1,551	705	433	(D)	(D)	1,876	(D)	3,997
Other chemicals	325 (minus 3251–52, 3254)	355	(D)	49	(D)	360	(S) 98	(D)	192	0	(S) 40	111	86	1,024
Plastics and rubber products	326	821	(D)	153	63	69	47	(D)	59	28	61	75	(S) 494	595
Nonmetallic mineral products	327	248	846	11	66	(D)	41	(D)	0	0	9	35	(S) 117	171
Primary metals	331	102	624	(D)	18	(D)	(D)	6	(S) 10	(D)	(S) 15	(D)	48	288
Fabricated metal products	332	969	1,672	(S) 298	103	19	87	110	38	(D)	17	(D)	102	740
Machinery	333	1,300	6,580	2,024	(S) 272	(S) 130	668	284	115	54	(S) 176	153	290	2,414
Computer and electronic products	334	1,271	45,097	(S) 16,471	351	3,334	(S) 2,832	(S) 1,733	(S) 4,286	529	(S) 3,783	(S) 1,149	180	10,449
Computers and peripheral equipment	3341	124	5,162	(S) 1,777	0	(D)	(D)	(S) 70	(D)	41	(D)	(D)	(D)	776
Communications equipment	3342	219	11,616	1,159	116	(D)	(S) 2,546	53	(S) 851	(D)	(S) 1,292	(D)	(S) 73	3,168
Semiconductor and other electronic components	3344	494	12,894	(S) 7,811	129	314	41	184	(D)	(D)	(S) 1,843	128	24	1,689

See explanatory information and SOURCE at end of table.

Table A-28. **Total (Federal plus company and other) funds for industrial R&D performance in the U.S. and number of R&D-performing companies in the U.S., by industry and size of company, for the U.S. and top 10 R&D-performing states: 2000**

Industry and size of company	NAICS codes	Number of companies	U.S., total	California	Michigan	New Jersey	Illinois	New York	Massa-chusetts	Wash-ington	Texas	Penn-sylvania	Ohio	All other states plus undistributed
			[In millions of dollars]											
Distribution by industry:														
Navigational, measuring, electromedical, and control instruments	3345	387	15,116	5,644	96	62	89	(D)	(D)	347	194	80	62	4,714
Other computer and electronic products	334 (minus 3341–42, 3344–45)	46	310	79	9	(D)	(D)	(D)	(D)	(D)	(D)	0	(D)	102
Electrical equipment, appliances, and components	335	443	(D)	345	(D)	12	152	306	(D)	(D)	121	155	739	1,306
Transportation equipment	336	558	30,085	(S) 3,208	(S) 12,953	123	268	(S) 1,554	(D)	(D)	136	(S) 352	469	8,832
Motor vehicles, trailers, and parts	3361–63	353	(D)	(D)	(S) 12,688	(D)	218	82	(D)	(S) 42	43	94	210	2,951
Aerospace products and parts	3364	68	10,319	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(S) 256	5,130
Other transportation equipment	336 (minus 3361–64)	137	(D)	(D)	(D)	(S) 29	(D)	(D)	(D)	(S) 18	(D)	(D)	3	750
Furniture and related products	337	214	284	3	(S) 99	0	20	(D)	(D)	(D)	(D)	(D)	7	151
Miscellaneous manufacturing	339	528	4,206	397	35	126	55	142	183	35	86	112	51	2,984
Medical equipment and supplies	3391	249	(D)	310	(D)	122	22	136	(D)	(D)	79	(D)	47	2,768
Other miscellaneous manufacturing	339 (minus 3391)	279	(D)	87	(D)	5	34	6	(D)	(D)	7	(D)	4	216
Other manufacturing	31–33 (minus 321–27, 331–37, 339)	--	--	--	--	--	--	--	--	--	--	--	--	--
Small manufacturing companies [1]	Fewer than 50 employees	9,099	2,643	273	307	139	11	142	26	16	11	301	16	1,401
Nonmanufacturing	21–23, 42, 44–81	18,096	75,461	21,000	1,965	4,592	4,281	3,630	3,970	(S) 6,216	3,741	2,480	2,052	21,535
Mining, extraction, and support activities	21	128	823	(D)	0	(D)	(D)	(D)	(D)	(D)	215	0	(D)	439
Utilities	22	99	(D)	14	(D)	6	0	47	1	0	(D)	2	(D)	58
Construction	23	78	(D)	0	(D)	(D)	36	1	0	0	(D)	(D)	6	168

See explanatory information and SOURCE at end of table.

Table A-28. **Total (Federal plus company and other) funds for industrial R&D performance in the U.S. and number of R&D-performing companies in the U.S., by industry and size of company, for the U.S. and top 10 R&D-performing states: 2000**

Industry and size of company	NAICS codes	Number of companies	U.S., total	California	Michigan	New Jersey	Illinois	New York	Massa-chusetts	Wash-ington	Texas	Penn-sylvania	Ohio	All other states plus undistributed
			[In millions of dollars]											
Distribution by industry:														
Trade	42, 44, 45	2,775	24,959	5,328	(D)	2,937	3,707	1,428	828	1,488	(D)	1,374	186	5,283
Transportation and warehousing	48, 49	172	(D)	5	0	11	6	(D)	(D)	11	10	(D)	(D)	218
Information	51	1,081	16,830	4,494	(D)	(S) 610	129	(D)	783	(D)	694	(D)	373	4,088
Publishing	511	827	13,004	3,974	(D)	(D)	(D)	(S) 858	590	(D)	422	93	(D)	2,815
Newspaper, periodical, book, and database	5111	61	365	10	(D)	(D)	0	225	(D)	0	(D)	(S) 16	0	21
Software	5112	767	12,639	3,964	(D)	(D)	(D)	(S) 633	(D)	(D)	(D)	77	(D)	2,794
Broadcasting and telecommunications	513	16	(S) 1,407	139	0	(D)	0	(D)	(D)	0	(D)	(D)	0	432
Radio and television broadcasting	5131	1	(D)	(D)	0	0	0	0	0	0	0	(D)	0	(D)
Telecommunications	5133	14	(D)	80	0	(D)	0	(D)	(D)	0	(D)	(D)	0	(D)
Other broadcasting and telecommunications	513 (minus 5131, 5133)	2	59	(D)	0	(D)	0	0	0	0	0	0	0	0
Other information	51 (minus 511, 513)	237	2,420	381	(D)	172	(D)	218	(D)	(D)	(D)	71	(D)	840
Finance, insurance, and real estate	52, 53	321	4,025	(S) 70	(D)	98	(S) 104	383	126	0	(S) 23	(D)	(D)	2,942
Professional, scientific, and technical services	54	3,737	22,577	8,253	829	673	287	394	2,070	1,053	630	567	1,197	6,624
Architectural, engineering, and related services	5413	645	3,381	732	596	(D)	(D)	16	(D)	(D)	99	44	(S) 32	1,610
Computer systems design and related services	5415	1,509	5,169	1,439	31	191	87	140	271	205	174	178	63	2,390
Scientific R&D services	5417	986	12,892	5,921	195	(D)	(D)	230	1,699	804	351	310	709	2,215
Other professional, scientific, and technical services	54 (minus 5413, 5415, 5417)	596	1,135	161	7	(D)	61	8	(D)	(D)	6	35	394	409

See explanatory information and SOURCE at end of table.

Table A-28. **Total (Federal plus company and other) funds for industrial R&D performance in the U.S. and number of R&D-performing companies in the U.S., by industry and size of company, for the U.S. and top 10 R&D-performing states: 2000**

Industry and size of company	NAICS codes	Number of companies	U.S., total	California	Michigan	New Jersey	Illinois	New York	Massa-chusetts	Wash-ington	Texas	Penn-sylvania	Ohio	All other states plus undistributed
			[In millions of dollars]											
Distribution by industry:														
Management of companies and enterprises	55	36	49	(D)	0	8	0	0	(D)	0	(D)	0	0	3
Health care services	621–23	536	536	84	(D)	(D)	0	(D)	130	(D)	0	3	0	302
Other nonmanufacturing	56, 61, 624, 71, 72, 81	815	731	69	(D)	(D)	(D)	(D)	(D)	0	121	(D)	3	439
Small nonmanufacturing companies [1]	Fewer than 15 employees	8,320	4,276	2,540	43	207	0	(S) 72	18	0	339	24	62	971
Distribution by size of company: [Number of employees]														
Total	(na)	35,273	199,539	45,768	(S) 17,640	12,062	10,661	10,539	9,863	(S) 9,265	8,961	7,873	5,962	60,946
5 to 24	(na)	17,062	6,862	2,985	297	330	95	224	74	109	395	109	161	2,084
25 to 49	(na)	5,141	5,008	1,548	115	311	43	239	252	221	183	355	78	1,663
50 to 99	(na)	4,687	7,259	1,643	683	1,919	102	105	404	60	347	143	78	1,775
100 to 249	(na)	3,880	9,020	3,524	188	238	111	479	720	180	242	250	553	2,534
250 to 499	(na)	1,623	7,479	2,661	248	318	80	279	613	270	167	195	118	2,532
500 to 999	(na)	1,045	9,074	2,191	(S) 148	238	320	392	(S) 753	1,387	507	185	352	2,601
1,000 to 4,999	(na)	1,277	30,636	7,879	692	1,197	4,091	707	1,834	483	1,015	1,325	782	10,631
5,000 to 9,999	(na)	263	16,768	5,159	469	1,330	(S) 700	(D)	(S) 463	(D)	698	(D)	581	5,658
10,000 to 24,999	(na)	180	28,653	3,383	1,908	3,087	817	(D)	1,235	(D)	(S) 2,215	(S) 1,915	(S) 755	8,704
25,000 or more	(na)	115	78,779	(S) 14,797	(S) 12,891	(S) 3,094	(S) 4,304	6,281	(S) 3,514	(D)	(S) 3,191	(D)	2,504	22,829

[1] The frame from which the statistical sample was selected was divided into two partitions based on total company employment. In the manufacturing sector, companies with employment of 50 or more were included in the large company partition. In the nonmanufacturing sector, companies with employment of 15 or more were included in the large company partition. Companies in the respective sectors with employment below these values, but with at least 5 employees, were included in the small company partition. The purpose of partitioning the sample this way was to reduce the variability in industry estimates largely attributed to the random year-to-year selection of small companies by industry and the high sampling weights that sometimes were assigned to them. Because of this, detailed industry statistics were possible only from the large company partition; detailed industry statistics from the small company partition were not possible. Statistics from the small company partition are shown separately and are included in manufacturing, nonmanufacturing, and all industries totals. For more information, see "frame creation" and "sample selection" in the technical notes in Section B.

KEY: (D) = Data have been withheld to avoid disclosing operations of individual companies.
(S) = Indicates imputation of more than 50 percent.
(--) = Indicates data not collected.
(na) = Not applicable.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-29. **Total (Federal plus company and other) funds for industrial R&D performance in the U.S., by industry and size of company, by type of cost: 2000**

Industry and size of company	NAICS codes	Total R&D costs	Wages of R&D personnel		Materials and supplies		R&D depreciation		Other costs	
		[In millions of dollars]	[Percent]							
Distribution by industry:										
All industries	21–23, 31–33, 42, 44–81	199,539	(S)	42.2	(S)	14.1		2.0	(S)	41.7
Manufacturing	31–33	124,078	(S)	37.0	(S)	15.0		1.8	(S)	46.2
Food	311	(D)	(S)	53.6	(S)	13.4		2.6		30.3
Beverage and tobacco products	312	417		(D)		(D)		(D)		37.5
Textiles, apparel, and leather	313–16	(D)		36.7		16.8		2.2		44.2
Wood products	321	105	(S)	69.3		(D)		(D)		(D)
Paper, printing and support activities	322, 323	(D)	(S)	44.7	(S)	13.9		2.0		39.3
Petroleum and coal products	324	(D)	(S)	59.5	(S)	7.1		1.3	(S)	32.1
Chemicals	325	20,918		34.4		8.2		3.4		54.0
Basic chemicals	3251	2,080	(S)	55.6		8.0		4.2	(S)	32.2
Resin, synthetic rubber, fibers, and filament	3252	2,852		52.3		(D)		(D)		27.3
Pharmaceuticals and medicines	3254	(D)		23.5		7.0		2.8		66.7
Other chemicals	325 (minus 3251–52, 3254)	(D)	(S)	52.3	(S)	10.6	(S)	0.9	(S)	36.2
Plastics and rubber products	326	(D)	(S)	57.3		17.2		1.6	(S)	24.0
Nonmetallic mineral products	327	846		23.5		29.5		(D)		(D)
Primary metals	331	624		71.4	(S)	7.0	(S)	1.9	(S)	19.7
Fabricated metal products	332	1,672	(S)	55.0	(S)	18.2		0.7	(S)	26.1
Machinery	333	6,580		43.4		27.0		2.4		27.2
Computer and electronic products	334	45,097	(S)	36.8	(S)	12.4		1.5	(S)	49.3
Computers and peripheral equipment	3341	5,162	(S)	31.7	(S)	9.7		1.3		57.3
Communications equipment	3342	11,616	(S)	55.5	(S)	24.3		0.7	(S)	19.4
Semiconductor and other electronic components	3344	12,894	(S)	45.1	(S)	10.1		3.3	(S)	41.5
Navigational, measuring, electromedical, and control instruments	3345	15,116		14.4	(S)	5.6		0.6	(S)	79.4
Other computer and electronic products	334 (minus 3341–42, 3344–45)	310		60.5		9.3		3.6		26.5
Electrical equipment, appliances, and components	335	(D)		47.4		16.7		2.6		33.3
Transportation equipment	336	30,085	(S)	35.7	(S)	22.6		0.7	(S)	41.0
Motor vehicles, trailers, and parts	3361–63	(D)	(S)	39.4	(S)	27.8		0.9	(S)	31.9
Aerospace products and parts	3364	10,319	(S)	28.0	(S)	13.9		(D)		(D)
Other transportation equipment	336 (minus 3361–64)	(D)	(S)	45.8	(S)	19.1	(S)	0.4	(S)	34.6
Furniture and related products	337	284	(S)	62.6		(D)		(D)	(S)	18.7

See explanatory information and SOURCE at end of table.

Table A-29. **Total (Federal plus company and other) funds for industrial R&D performance in the U.S., by industry and size of company, by type of cost: 2000**

Industry and size of company	NAICS codes	Total R&D costs	Wages of R&D personnel	Materials and supplies	R&D depreciation	Other costs
		[In millions of dollars]	[Percent]			
Distribution by industry:						
Miscellaneous manufacturing	339	4,206	11.7	2.6	0.6	85.2
Medical equipment and supplies	3391	(D)	9.0	2.1	0.4	88.4
Other miscellaneous manufacturing	339 (minus 3391)	(D)	43.3	8.0	2.4	46.2
Other manufacturing	31–33 (minus 311–16, 321–27, 331–37, 339)	--	--	--	--	--
Small manufacturing companies [1]	Fewer than 50 employees	2,643	0.0	0.0	0.0	0.0
Nonmanufacturing	21–23, 42, 44–81	75,461	(S) 54.6	(S) 11.9	2.4	(S) 31.1
Mining, extraction, and support activities	21	823	50.1	24.1	2.7	23.1
Utilities	22	(D)	25.4	25.6	0.0	49.0
Construction	23	(D)	(S) 69.9	10.1	1.1	(S) 18.9
Trade	42, 44, 45	24,959	50.2	(S) 17.8	3.0	29.0
Transportation and warehousing	48, 49	(D)	71.3	0.3	0.0	28.4
Information	51	16,830	(S) 65.5	(S) 4.0	1.2	(S) 29.3
Publishing	511	13,004	(S) 63.7	(S) 3.4	1.3	(S) 31.6
Newspaper, periodical, book, and database	5111	365	60.3	(D)	(D)	(S) 27.7
Software	5112	12,639	(S) 63.8	(S) 3.3	1.2	(S) 31.7
Broadcasting and telecommunications	513	(S) 1,407	(S) 68.3	(S) 11.0	1.0	(S) 19.7
Radio and television broadcasting	5131	(D)	70.0	0.0	0.0	30.0
Telecommunications	5133	(D)	(S) 67.9	(S) 13.6	1.3	(S) 17.2
Other broadcasting and telecommunications	513 (minus 5131, 5133)	59	0.0	0.0	0.0	0.0
Other information	51 (minus 511, 513)	2,420	75.3	3.6	0.1	21.0
Finance, insurance, and real estate	52, 53	4,025	(S) 78.3	(S) 4.2	(D)	(D)
Professional, scientific, and technical services	54	22,577	(S) 45.7	13.3	3.4	(S) 37.6
Architectural, engineering, and related services	5413	3,381	(S) 43.8	16.0	3.6	(S) 36.7
Computer systems design and related services	5415	5,169	72.9	3.4	1.8	21.9
Scientific R&D services	5417	12,892	(S) 39.2	15.1	3.6	(S) 42.1
Other professional, scientific, and technical services	54 (minus 5413, 5415, 5417)	1,135	(S) 75.3	(S) 7.0	(D)	(D)
Management of companies and enterprises	55	49	(D)	(D)	(D)	(D)
Health care services	621–23	536	47.5	14.8	6.6	31.1
Other nonmanufacturing	56, 61, 624, 71, 72, 81	731	(S) 61.1	2.6	(D)	(D)
Small nonmanufacturing companies [1]	Fewer than 15 employees	4,276	40.0	(D)	(D)	33.3

See explanatory information and SOURCE at end of table.

Table A-29. **Total (Federal plus company and other) funds for industrial R&D performance in the U.S., by industry and size of company, by type of cost: 2000**

Industry and size of company	NAICS codes	Total R&D costs	Wages of R&D personnel		Materials and supplies		R&D depreciation	Other costs	
		[In millions of dollars]	[Percent]						
Distribution by size of company: [Number of employees]									
Total	(na)	199,539	(S)	42.2	(S)	14.1	2.0	(S)	41.7
5 to 24	(na)	6,862	(S)	46.7	(S)	6.7	(D)		(D)
25 to 49	(na)	5,008	(S)	44.4	(S)	11.1	1.9		42.6
50 to 99	(na)	7,259		41.0		13.7	3.3		42.1
100 to 249	(na)	9,020	(S)	45.1		13.1	3.6		38.2
250 to 499	(na)	7,479		47.7	(S)	11.8	3.0		37.5
500 to 999	(na)	9,074		49.8		12.8	3.2		34.2
1,000 to 4,999	(na)	30,636		49.3		10.5	3.5		36.7
5,000 to 9,999	(na)	16,768		45.9		15.4	1.7	(S)	37.0
10,000 to 24,999	(na)	28,653	(S)	40.9	(S)	10.6	1.6	(S)	46.9
25,000 or more	(na)	78,779	(S)	38.9	(S)	16.3	1.4	(S)	43.3

[1] The frame from which the statistical sample was selected was divided into two partitions based on total company employment. In the manufacturing sector, companies with employment of 50 or more were included in the large company partition. In the nonmanufacturing sector, companies with employment of 15 or more were included in the large company partition. Companies in the respective sectors with employment below these values, but with at least 5 employees, were included in the small company partition. The purpose of partitioning the sample this way was to reduce the variability in industry estimates largely attributed to the random year-to-year selection of small companies by industry and the high sampling weights that sometimes were assigned to them. Because of this, detailed industry statistics were possible only from the large company partition; detailed industry statistics from the small company partition were not possible. Statistics from the small company partition are shown separately and are included in manufacturing, nonmanufacturing, and all industries totals. For more information, see "frame creation" and "sample selection" in the technical notes in Section B.

KEY: (D) = Data have been withheld to avoid disclosing operations of individual companies.
(S) = Indicates imputation of more than 50 percent.
(--) = Indicates data not collected.
(na) = Not applicable.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-30. **Domestic employment of companies that performed industrial R&D in the U.S., by industry, by size of company: 2000**

Industry	NAICS codes	Total	Size of company [number of employees]									
			5 to 24	25 to 49	50 to 99	100 to 249	250 to 499	500 to 999	1,000 to 4,999	5,000 to 9,999	10,000 to 24,999	25,000 or more
		[In thousands]										
Distribution by industry:												
All industries	21–23, 31–33, 42, 44–81	17,663	182	180	324	594	579	723	3,120	1,830	2,730	7,400
Manufacturing	31–33	11,010	77	96	197	379	338	523	2,336	1,344	1,656	4,064
Food	311	1,176	0	0	(D)	(D)	15	24	390	152	204	387
Beverage and tobacco products	312	85	0	0	0	0	0	0	13	(D)	(D)	(D)
Textiles, apparel, and leather	313–16	239	(D)	0	(D)	13	27	17	61	23	67	(D)
Wood products	321	74	0	0	0	3	3	4	16	(D)	(D)	0
Paper, printing and support activities	322, 323	639	0	0	(D)	31	(D)	0	14	139	100	352
Petroleum and coal products	324	191	0	0	0	0	(D)	6	8	(D)	53	111
Chemicals	325	829	0	(D)	(D)	14	34	39	190	135	193	201
Basic chemicals	3251	174	0	0	(D)	8	(D)	26	69	43	(D)	0
Resin, synthetic rubber, fibers, and filament	3252	125	0	0	(D)	0	(D)	0	21	(D)	(D)	(D)
Pharmaceuticals and medicines	3254	312	0	(D)	3	(S) 1	18	2	35	(D)	118	103
Other chemicals	325 (minus 3251–52, 3254)	218	0	0	17	6	11	11	64	44	(D)	(D)
Plastics and rubber products	326	511	0	2	19	34	24	79	135	72	45	100
Nonmetallic mineral products	327	223	0	0	(D)	10	16	8	72	45	40	(D)
Primary metals	331	358	0	0	(D)	0	11	17	65	92	61	(D)
Fabricated metal products	332	655	0	0	25	46	41	64	135	94	101	148
Machinery	333	753	0	7	28	63	36	56	190	112	137	123
Computer and electronic products	334	1,615	(D)	(D)	24	45	56	111	273	157	269	676
Computers and peripheral equipment	3341	171	0	0	(D)	2	6	9	15	53	81	(D)
Communications equipment	3342	414	0	(D)	(D)	4	12	20	44	(S) 24	(D)	274
Semiconductor and other electronic components	3344	491	(D)	5	7	18	21	48	123	43	80	(D)
Navigational, measuring, electromedical, and control instruments	3345	514	0	0	8	19	14	27	77	36	78	255
Other computer and electronic products	334 (minus 3341–42, 3344–45)	26	0	(D)	1	1	3	6	14	0	(D)	0
Electrical equipment, appliances, and components	335	517	(D)	0	10	28	10	16	75	52	158	(D)

See explanatory information and SOURCE at end of table.

Table A-30. **Domestic employment of companies that performed industrial R&D in the U.S., by industry, by size of company: 2000**

Industry	NAICS codes	Total	Size of company [number of employees]									
			5 to 24	25 to 49	50 to 99	100 to 249	250 to 499	500 to 999	1,000 to 4,999	5,000 to 9,999	10,000 to 24,999	25,000 or more
		[In thousands]										
Distribution by industry:												
Transportation equipment	336	2,054	0	0	11	17	25	37	231	127	113	1,493
Motor vehicles, trailers, and parts	3361–63	1,250	0	0	4	(D)	21	28	207	75	(D)	870
Aerospace products and parts	3364	587	0	0	5	(D)	0	(D)	7	33	(D)	519
Other transportation equipment	336 (minus 3361–64)	217	0	0	2	(D)	4	(D)	17	19	53	104
Furniture and related products	337	250	0	(D)	1	20	13	15	42	44	80	(D)
Miscellaneous manufacturing	339	304	0	(D)	14	24	20	29	104	67	0	(D)
Medical equipment and supplies	3391	201	0	(D)	4	16	10	12	58	(D)	0	(D)
Other miscellaneous manufacturing	339 (minus 3391)	102	0	(D)	10	8	10	17	46	(D)	0	0
Other manufacturing	31–33 (minus 311–16, 321–27, 331–37, 339)	--	--	--	--	--	--	--	--	--	--	--
Small manufacturing companies [1]	Fewer than 50 employees	537	(D)	81	31	(D)	0	0	0	0	0	0
Nonmanufacturing	21–23, 42, 44–81	6,652	105	84	127	215	241	200	784	486	1,074	3,336
Mining, extraction, and support activities	21	182	1	0	3	0	(D)	7	22	25	74	(D)
Utilities	22	392	0	(D)	0	0	24	8	41	118	176	(D)
Construction	23	59	0	0	3	1	1	5	18	(D)	(D)	0
Trade	42, 44, 45	1,302	8	28	43	60	18	82	236	135	274	418
Transportation and warehousing	48, 49	681	(D)	2	0	(D)	18	4	12	(D)	(D)	601
Information	51	1,561	3	10	10	27	51	33	106	37	155	1,128
Publishing	511	350	2	10	(D)	20	25	26	81	23	90	(D)
Newspaper, periodical, book, and database	5111	117	0	1	(D)	0	7	(D)	(D)	(D)	(D)	(D)
Software	5112	233	2	10	9	20	17	(D)	(D)	(D)	(D)	0
Broadcasting and telecommunications	513	1,018	0	0	(D)	(D)	1	2	(D)	(D)	(D)	1,000
Radio and television broadcasting	5131	(D)	0	0	0	0	0	0	0	(D)	0	(D)
Telecommunications	5133	972	0	0	(D)	(D)	(D)	2	(D)	(D)	(D)	955
Other broadcasting and telecommunications	513 (minus 5131, 5133)	(D)	0	0	0	0	(D)	0	0	0	0	(D)

See explanatory information and SOURCE at end of table.

Table A-30. **Domestic employment of companies that performed industrial R&D in the U.S., by industry, by size of company: 2000**

Industry	NAICS codes	Total	Size of company [number of employees]									
			5 to 24	25 to 49	50 to 99	100 to 249	250 to 499	500 to 999	1,000 to 4,999	5,000 to 9,999	10,000 to 24,999	25,000 or more
		[In thousands]										
Distribution by industry:												
Other information	51 (minus 511, 513)	193	1	0	1	(D)	26	5	(D)	(D)	(D)	(D)
Finance, insurance, and real estate	52, 53	829	1	1	6	9	(D)	3	108	(D)	75	588
Professional, scientific, and technical services	54	724	17	36	50	85	59	51	158	102	64	103
Architectural, engineering, and related services	5413	164	4	6	8	8	10	8	45	24	51	0
Computer systems design and related services	5415	267	3	18	25	30	(D)	18	77	27	(D)	(D)
Scientific R&D services	5417	155	5	8	14	30	(D)	11	15	19	0	(D)
Other professional, scientific, and technical services	54 (minus 5413, 5415, 5417)	138	5	3	3	18	(D)	14	20	32	(D)	(D)
Management of companies and enterprises	55	3	0	0	1	(D)	0	(D)	0	0	0	0
Health care services	621–23	147	(D)	(D)	4	6	1	0	66	(D)	0	(D)
Other nonmanufacturing	56, 61, 624, 71, 72, 81	706	6	3	7	18	66	7	18	0	210	372
Small nonmanufacturing companies [1]	Fewer than 15 employees	68	(D)	0	0	0	0	0	0	0	0	0

[1] The frame from which the statistical sample was selected was divided into two partitions based on total company employment. In the manufacturing sector, companies with employment of 50 or more were included in the large company partition. In the nonmanufacturing sector, companies with employment of 15 or more were included in the large company partition. Companies in the respective sectors with employment below these values, but with at least 5 employees, were included in the small company partition. The purpose of partitioning the sample this way was to reduce the variability in industry estimates largely attributed to the random year-to-year selection of small companies by industry and the high sampling weights that sometimes were assigned to them. Because of this, detailed industry statistics were possible only from the large company partition; detailed industry statistics from the small company partition were not possible. Statistics from the small company partition are shown separately and are included in manufacturing, nonmanufacturing, and all industries totals. Note that because companies were assigned to the "small company" partition of the sample based on preliminary information available from the sampling frame and the number of employees may have been revised during statistical processing, some companies' statistics are reported in size categories above the 50 employee threshold for manufacturing companies and the 15 employee threshold for nonmanufacturing companies. For more information, see "frame creation" and "sample selection" in the technical notes in Section B.

KEY: (D) = Data have been withheld to avoid disclosing operations of individual companies.
(S) = Indicates imputation of more than 50 percent.
(--) = Indicates data not collected.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-31. **R&D funds per employee spent by companies that performed industrial R&D in the U.S., by size of company: 1997–2000**

Size of company [Number of employees]	1997	1998	1999 [1]	2000
	Total (company, Federal, and other) R&D funds per employee [In dollars]			
Total	7,791	9,251	10,028	11,297
5 to 24	19,764	20,630	34,057	37,703
25 to 49	12,985	12,788	19,590	27,786
50 to 99	13,948	17,080	20,460	22,381
100 to 499	10,561	13,897	11,892	15,190
250 to 499	10,803	10,110	11,861	12,915
500 to 999	6,287	6,872	9,031	12,550
1,000 to 4,999	6,849	7,755	9,276	9,819
5,000 to 9,999	6,331	6,832	7,881	9,160
10,000 to 24,999	6,747	8,494	8,031	10,497
25,000 or more	7,990	9,671	10,047	10,646
	Company and other (except Federal) R&D funds per employee [In dollars]			
Total	6,608	7,929	8,791	10,215
5 to 24	16,961	17,967	31,087	32,637
25 to 49	11,772	10,994	18,072	26,552
50 to 99	12,533	15,534	18,754	20,797
100 to 499	9,710	11,998	10,781	14,063
250 to 499	10,021	9,271	11,132	11,775
500 to 999	5,810	6,418	8,272	11,866
1,000 to 4,999	6,660	7,531	8,942	9,570
5,000 to 9,999	6,059	6,572	6,825	8,273
10,000 to 24,999	6,461	8,168	7,903	10,249
25,000 or more	5,884	7,254	7,955	8,949

[1] Statistics for 1999 have been revised since originally published.

NOTE: Averages were derived by dividing total and company R&D funds spent during a calendar year by total employment in March of that year.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-32. **Distribution of total employment in companies that performed industrial R&D in the U.S., ranked by size of R&D program: 1989–2000**

Companies ranked by size of R&D program	1989 [1]	1990 [1]	1991 [1,2]	1992 [2]	1993 [2]	1994 [2]	1995 [2]	1996 [2]	1997 [2]	1998 [2]	1999 [2,3]	2000 [2]
	[Percent]											
Total	100	100	100	100	100	100	100	100	100	100	100	100
First 4 (1–4)	7	7	7	7	6	6	6	6	5	5	4	2
Next 4 (5–8)	3	3	3	3	2	2	2	2	3	3	2	2
Next 12 (9–20)	6	5	5	5	5	4	4	4	3	4	5	6
Next 20 (21–40)	4	5	4	4	4	4	4	4	4	4	4	4
Next 60 (41–100)	10	9	9	8	8	7	7	7	5	7	6	8
Next 100 (101–200)	8	8	10	9	9	8	7	8	9	8	7	7
Next 200 (201–400)	9	11	10	10	10	9	9	9	17	11	14	13
All others	53	52	52	47	55	59	61	59	34	60	58	57

[1] As a result of a new sample design, statistics for 1989–91 have been revised since originally published. These statistics now better reflect R&D performance among firms in the nonmanufacturing industries and small firms in all industries. For more information, see the technical notes in Section B.

[2] As a result of the new sample design, statistics for 1991 and later years are not directly comparable with statistics for 1990 and earlier years For more information, see the technical notes in Section B.

[3] Percentages for 1999 have been revised since originally published.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-33. **Number of full-time equivalent (FTE) R&D scientists and engineers in companies that performed industrial R&D in the U.S., by industry and size of company, by source of R&D funds: January 2001**

Industry and size of company	NAICS codes	Total		Federal		Company	
		[In thousands]					
Distribution by industry:							
All industries	21–23, 31–33, 42, 44–81		1,041.3	(S)	77.8		963.5
Manufacturing	31–33		608.8	(S)	43.8	(S)	565.0
Food	311		7.2		(D)		(D)
Beverage and tobacco products	312		1.9		(D)		(D)
Textiles, apparel, and leather	313–16		2.1		(D)		(D)
Wood products	321	(S)	1.3		0.0	(S)	1.3
Paper, printing and support activities	322, 323	(S)	12.4		(D)		(D)
Petroleum and coal products	324	(S)	2.8		(D)		(D)
Chemicals	325		81.3	(S)	0.7	(S)	80.6
Basic chemicals	3251		12.4	(S)	0.2		12.2
Resin, synthetic rubber, fibers, and filament	3252		9.6	(S)	0.1	(S)	9.5
Pharmaceuticals and medicines	3254		42.5		(D)		(D)
Other chemicals	325 (minus 3251–52, 3254)	(S)	16.8		(D)		(D)
Plastics and rubber products	326		12.3		0.0	(S)	12.3
Nonmetallic mineral products	327		6.6		(D)		(D)
Primary metals	331	(S)	4.6	(S)	0.1	(S)	4.5
Fabricated metal products	332		9.8		(D)		(D)
Machinery	333		51.7		0.2		51.5
Computer and electronic products	334	(S)	246.1	(S)	23.9	(S)	222.2
Computers and peripheral equipment	3341		23.2		0.0		23.2
Communications equipment	3342	(S)	80.7		(D)		(D)
Semiconductor and other electronic components	3344	(S)	65.0		0.2	(S)	64.8
Navigational, measuring, electromedical, and control instruments	3345		75.1	(S)	22.5		0.0 52.6
Other computer and electronic products	334 (minus 3341–42, 3344–45)		2.2		(D)		(D)
Electrical equipment, appliances, and components	335		22.7		(D)		(D)
Transportation equipment	336		108.6	(S)	18.0		90.6
Motor vehicles, trailers, and parts	3361–63		75.2		(D)		(D)
Aerospace products and parts	3364		25.1		13.0		12.1
Other transportation equipment	336 (minus 3361–64)	(S)	8.3		(D)		(D)
Furniture and related products	337	(S)	2.4		0.0	(S)	2.4
Miscellaneous manufacturing	339		15.3		(D)		(D)
Medical equipment and supplies	3391		11.7		(D)		(D)
Other miscellaneous manufacturing	339 (minus 3391)		3.6		0.0		3.6
Other manufacturing	31–33 (minus 311–16, 321–27, 331–37, 339)		--		--		--
Small manufacturing companies [1]	Fewer than 50 employees		19.7		0.0		19.7

See explanatory information and SOURCE at end of table.

Table A-33. **Number of full-time equivalent (FTE) R&D scientists and engineers in companies that performed industrial R&D in the U.S., by industry and size of company, by source of R&D funds: January 2001**

Industry and size of company	NAICS codes	Total	Federal	Company
		[In thousands]		
Distribution by industry:				
Nonmanufacturing	21–23, 42, 44–81	432.5	(S) 34.0	398.5
Mining, extraction, and support activities	21	5.2	(D)	(D)
Utilities	22	0.6	(D)	(D)
Construction	23	0.5	(D)	(D)
Trade	42, 44, 45	99.1	(D)	(D)
Transportation and warehousing	48, 49	1.9	(D)	(D)
Information	51	117.2	(D)	(D)
Publishing	511	86.8	(D)	(D)
Newspaper, periodical, book, and database	5111	3.6	0.0	3.6
Software	5112	83.2	(D)	(D)
Broadcasting and telecommunications	513	12.0	(D)	(D)
Radio and television broadcasting	5131	(D)	(D)	(D)
Telecommunications	5133	(D)	(D)	(D)
Other broadcasting and telecommunications	513 (minus 5131, 5133)	0.2	0.0	0.2
Other information	51 (minus 511, 513)	18.4	(D)	(D)
Finance, insurance, and real estate	52, 53	20.5	0.0	(S) 20.5
Professional, scientific, and technical services	54	145.6	(S) 19.1	(S) 126.5
Architectural, engineering, and related services	5413	(S) 34.0	(D)	(D)
Computer systems design and related services	5415	46.4	0.7	(S) 45.7
Scientific R&D services	5417	56.8	(S) 12.4	44.4
Other professional, scientific, and technical services	54 (minus 5413, 5415, 5417)	8.4	(D)	(D)
Management of companies and enterprises	55	0.3	(D)	(D)
Health care services	621–23	2.9	0.0	2.9
Other nonmanufacturing	56, 61, 624, 71, 72, 81	5.8	(D)	(D)
Small nonmanufacturing companies [1]	Fewer than 15 employees	32.8	(D)	(D)

See explanatory information and SOURCE at end of table.

Table A-33. **Number of full-time equivalent (FTE) R&D scientists and engineers in companies that performed industrial R&D in the U.S., by industry and size of company, by source of R&D funds: January 2001**

Industry and size of company	NAICS codes	Total		Federal		Company	
		[In thousands]					
Distribution by size of company: [Number of employees]							
Total	(na)		1,041.3	(S)	77.8		963.5
5 to 24	(na)		53.6		(D)		(D)
25 to 49	(na)		32.3	(S)	0.2	(S)	32.1
50 to 99	(na)		35.8		0.8		35.0
100 to 249	(na)		55.6		2.0		53.6
250 to 499	(na)		45.7		(D)		(D)
500 to 999	(na)		66.7		2.9	(S)	63.8
1,000 to 4,999	(na)		154.3	(S)	2.7		151.6
5,000 to 9,999	(na)	(S)	107.3	(S)	13.9		93.4
10,000 to 24,999	(na)		151.6	(S)	5.4		146.2
25,000 or more	(na)	(S)	338.4	(S)	46.7	(S)	291.7

[1] The frame from which the statistical sample was selected was divided into two partitions based on total company employment. In the manufacturing sector, companies with employment of 50 or more were included in the large company partition. In the nonmanufacturing sector, companies with employment of 15 or more were included in the large company partition. Companies in the respective sectors with employment below these values, but with at least 5 employees, were included in the small company partition. The purpose of partitioning the sample this way was to reduce the variability in industry estimates largely attributed to the random year-to-year selection of small companies by industry and the high sampling weights that sometimes were assigned to them. Because of this, detailed industry statistics were possible only from the large company partition; detailed industry statistics from the small company partition were not possible. Statistics from the small company partition are shown separately and are included in manufacturing, nonmanufacturing, and all industries totals. For more information, see "frame creation" and "sample selection" in the technical notes in Section B.

KEY: (D) = Data have been withheld to avoid disclosing operations of individual companies.
(S) = Indicates imputation of more than 50 percent.
(--) = Indicates data not collected.
(na) = Not applicable.

NOTE: The company R&D in this table is the industrial R&D performed within company facilities funded from all sources except the Federal Government. The funds predominantly are the company's own, but also include funds from outside organizations such as other companies, research institutions, universities and colleges, nonprofit organizations, and State governments. Excluded from this table are company-funded R&D not performed within the company (e.g., R&D contracted out to other organizations) and company-funded R&D not performed in the U.S. (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations).

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-34. **R&D funds per full-time equivalent (FTE) R&D scientist or engineer spent by companies that performed industrial R&D in the U.S., by industry, by size of company: 2000**

Industry	NAICS code(s)	Total	Size of company [number of employees]									
			5 to 24	25 to 49	50 to 99	100 to 249	250 to 499	500 to 999	1,000 to 4,999	5,000 to 9,999	10,000 to 24,999	25,000 or more
		[Dollars]										
Distribution by industry:												
All industries	21–23, 31–33, 42, 44–81	192,322	130,901	149,210	155,225	172,557	164,678	138,565	198,200	(S) 147,280	214,207	(S) 232,104
Manufacturing	31–33	205,849	223,119	132,610	99,999	111,680	144,894	143,299	162,058	(S) 158,619	(S) 219,342	(S) 264,461
Food	311	(D)	0	0	(D)	28,472	91,150	112,813	195,101	170,786	104,453	(S) 194,465
Beverage and tobacco products	312	216,589	0	0	0	0	0	0	178,762	(D)	0	(D)
Textiles, apparel, and leather	313–16	(D)	(D)	(S) 0	2,037	88,206	105,104	217,623	111,021	(D)	(S) 80,518	(D)
Wood products	321	(S) 104,459	(D)	0	(D)	88,667	(D)	(D)	33,921	(D)	(D)	0
Paper, printing and support activities	322, 323	(D)	0	0	22,579	80,782	(D)	0	115,848	(S) 243,784	(S) 160,435	(S) 236,314
Petroleum and coal products	324	(D)	0	0	0	0	105,705	(D)	(D)	(D)	(D)	(D)
Chemicals	325	255,054	0	(D)	144,087	76,323	185,202	266,237	175,307	286,922	292,884	(S) 276,649
Basic chemicals	3251	151,024	0	0	(D)	111,590	85,373	343,903	201,097	138,402	(D)	(D)
Resin, synthetic rubber, fibers, and filament	3252	323,577	0	0	232,000	0	(D)	0	(S) 168,251	(D)	(D)	(D)
Pharmaceuticals and medicines	3254	(D)	0	(D)	(D)	52,124	(D)	207,837	192,195	386,513	353,874	(S) 290,307
Other chemicals	325 (minus 3251–52, 3254)	(D)	0	(S) 0	156,682	84,769	174,906	148,090	129,593	(S) 297,294	(D)	(D)
Plastics and rubber products	326	(D)	200,526	100,188	154,772	82,018	34,941	204,591	142,999	(S) 95,307	(D)	(S) 144,859
Nonmetallic mineral products	327	170,476	0	0	72,472	144,114	185,956	(D)	181,169	(S) 99,004	(S) 76,760	(D)
Primary metals	331	(S) 130,370	0	0	(D)	(D)	230,477	283,985	(S) 145,312	(S) 188,608	(S) 45,969	(D)
Fabricated metal products	332	171,531	45,263	48,891	98,100	64,880	63,685	167,268	126,505	111,497	(S) 210,161	(D)
Machinery	333	126,914	36,304	135,092	213,511	106,941	164,283	61,366	129,483	(S) 104,353	177,880	(D)
Computer and electronic products	334	(S) 207,637	(D)	130,261	309,174	129,165	176,903	151,809	198,455	(S) 136,600	(S) 222,424	(S) 248,181
Computers and peripheral equipment	3341	232,125	0	0	236,495	111,078	157,056	268,243	248,656	211,945	(D)	(D)
Communications equipment	3342	(S) 187,953	0	253,081	753,494	62,794	231,490	144,233	119,965	(D)	(D)	(D)
Semiconductor and other electronic components	3344	(S) 219,592	(D)	98,926	445,110	77,326	172,236	126,803	243,241	171,714	(D)	(D)

See explanatory information and SOURCE at end of table.

Table A-34. **R&D funds per full-time equivalent (FTE) R&D scientist or engineer spent by companies that performed industrial R&D in the U.S., by industry, by size of company: 2000**

Industry	NAICS code(s)	Total	Size of company [number of employees]									
			5 to 24	25 to 49	50 to 99	100 to 249	250 to 499	500 to 999	1,000 to 4,999	5,000 to 9,999	10,000 to 24,999	25,000 or more
		[Dollars]										
Distribution by industry:												
Navigational, measuring, electromedical, and control instruments	3345	213,061	0	0	206,470	235,276	122,184	172,121	204,912	(S) 75,601	297,361	(S) 273,123
Other computer and electronic products	334 (minus 3341–42, 3344–45)	88,878	0	(D)	248,278	107,213	(S) 114,146	56,319	(S) 106,446	0	0	0
Electrical equipment, appliances, and components	335	(D)	0	0	354,827	139,613	(S) 19,647	138,839	(S) 157,267	(S) 112,192	204,125	(D)
Transportation equipment	336	243,195	6,041	0	232,340	131,811	303,082	135,128	76,411	(S) 143,170	(S) 167,559	273,479
Motor vehicles, trailers, and parts	3361–63	(D)	6,041	0	229,979	122,977	269,610	111,515	69,863	131,145	(D)	286,090
Aerospace products and parts	3364	(S) 256,609	0	0	(D)	(D)	0	(D)	99,376	(D)	(D)	(S) 255,342
Other transportation equipment	336 (minus 3361–64)	(D)	0	0	39,062	139,439	394,995	(S) 65,661	143,968	(D)	(D)	(D)
Furniture and related products	337	(S) 116,140	0	0	15,931	66,088	115,470	145,048	102,139	91,470	(S) 135,305	(D)
Miscellaneous manufacturing	339	284,251	(S) 49,245	(D)	191,803	123,349	150,762	83,761	139,997	(S) 313,221	(D)	(D)
Medical equipment and supplies	3391	(D)	0	(D)	215,688	147,643	200,895	88,911	154,753	(S) 297,135	(D)	(D)
Other miscellaneous manufacturing	339 (minus 3391)	(D)	(S) 89,696	0	143,346	74,664	71,961	75,159	108,057	(D)	0	(D)
Other manufacturing	31–33 (minus 311–16, 321–27, 331–37, 339)	--	--	--	--	--	--	--	--	--	--	--
Small manufacturing companies [1]	Fewer than 50 employees	117,692	123,636	137,795	55,998	189,083	0	0	0	0	0	0

See explanatory information and SOURCE at end of table.

Table A-34. **R&D funds per full-time equivalent (FTE) R&D scientist or engineer spent by companies that performed industrial R&D in the U.S., by industry, by size of company: 2000**

Industry	NAICS code(s)	Total	Size of company [number of employees]									
			5 to 24	25 to 49	50 to 99	100 to 249	250 to 499	500 to 999	1,000 to 4,999	5,000 to 9,999	10,000 to 24,999	25,000 or more
		[Dollars]										
Distribution by industry:												
Nonmanufacturing	21–23, 42, 44–81	173,567	262,712	157,310	182,961	205,497	177,421	134,010	250,015	123,936	205,530	144,920
Mining, extraction, and support activities	21	152,421	(D)	(D)	177,145	0	(D)	18,853	151,960	(D)	(D)	(D)
Utilities	22	(D)	0	0	0	0	475,542	(D)	203,218	145,518	233,823	(D)
Construction	23	(D)	0	0	207	(D)	8,367	(D)	(D)	(D)	(D)	(D)
Trade	42, 44, 45	227,668	130,006	229,163	727,413	154,029	121,234	381,033	327,157	157,162	272,805	164,841
Transportation and warehousing	48, 49	(D)	(D)	248	0	(D)	252,487	(D)	(D)	(D)	(D)	(D)
Information	51	145,622	99,495	107,427	119,805	138,878	123,725	115,649	167,970	66,494	(D)	107,222
Publishing	511	156,387	74,818	108,710	132,609	126,192	122,907	121,022	169,904	57,432	(D)	(D)
Newspaper, periodical, book, and database	5111	106,131	0	80,226	(D)	0	162,477	(D)	(D)	(D)	(D)	(D)
Software	5112	158,554	71,838	109,423	139,541	141,325	117,503	121,277	171,631	57,202	(D)	0
Broadcasting and telecommunications	513	(S) 101,638	0	0	(D)	(D)	546,009	(D)	(D)	0	(D)	(S) 95,493
Radio and television broadcasting	5131	(D)	0	0	0	0	0	0	(D)	0	0	(D)
Telecommunications	5133	(D)	0	0	(D)	(D)	198,293	(D)	(D)	0	(D)	(S) 119,027
Other broadcasting and telecommunications	513 (minus 5131, 5133)	208,704	0	0	0	0	620,649	(D)	0	0	0	0
Other information	51 (minus 511, 513)	130,209	(S) 131,830	0	43,600	238,014	108,225	24,321	(S) 159,703	(D)	(D)	(D)
Finance, insurance, and real estate	52, 53	216,437	38,115	105,040	(S) 343,943	(D)	(D)	(D)	692,712	(S) 120,071	(S) 307,998	71,017
Professional, scientific, and technical services	54	167,802	146,711	171,039	160,630	230,802	217,169	(S) 97,693	207,314	(S) 141,593	(D)	(D)
Architectural, engineering, and related services	5413	(S) 102,551	(S) 86,432	84,726	231,890	175,347	162,526	(D)	(S) 369,978	(D)	(D)	0

See explanatory information and SOURCE at end of table.

Table A-34. **R&D funds per full-time equivalent (FTE) R&D scientist or engineer spent by companies that performed industrial R&D in the U.S., by industry, by size of company: 2000**

Industry	NAICS code(s)	Total	Size of company [number of employees]									
			5 to 24	25 to 49	50 to 99	100 to 249	250 to 499	500 to 999	1,000 to 4,999	5,000 to 9,999	10,000 to 24,999	25,000 or more
		[Dollars]										
Distribution by industry:												
Computer systems design and related services	5415	124,254	64,061	127,125	104,338	149,100	171,218	128,949	134,555	(S) 44,882	0	(D)
Scientific R&D services	5417	246,174	242,879	244,104	203,499	289,857	271,989	188,935	210,645	(D)	0	(D)
Other professional, scientific, and technical services	54 (minus 5413, 5415, 5417)	149,203	155,796	190,438	7,801	(S) 393,838	(D)	(D)	104,801	(D)	(D)	(D)
Management of companies and enterprises	55	132,984	227,714	(S) 73,864	(D)	(D)	(D)	(D)	0	0	0	0
Health care services	621–23	156,338	114,160	(S) 79,416	(S) 364,523	283,783	179,418	0	565,606	(D)	(D)	(D)
Other nonmanufacturing	56, 61, 624, 71, 72, 81	125,219	195,491	(S) 243,615	6,518	594	212,912	(D)	56,056	0	(S) 95,433	(D)
Small nonmanufacturing companies [1]	Fewer than 15 employees	122,152	135,021	0	0	0	0	0	0	0	0	0

[1] The frame from which the statistical sample was selected was divided into two partitions based on total company employment. In the manufacturing sector, companies with employment of 50 or more were included in the large company partition. In the nonmanufacturing sector, companies with employment of 15 or more were included in the large company partition. Companies in the respective sectors with employment below these values, but with at least 5 employees, were included in the small company partition. The purpose of partitioning the sample this way was to reduce the variability in industry estimates largely attributed to the random year-to-year selection of small companies by industry and the high sampling weights that sometimes were assigned to them. Because of this, detailed industry statistics were possible only from the large company partition; detailed industry statistics from the small company partition were not possible. Statistics from the small company partition are shown separately and are included in manufacturing, nonmanufacturing, and all industries totals. Note that because companies were assigned to the "small company" partition of the sample based on preliminary information available from the sampling frame and the number of employees may have been revised during statistical processing, some companies' statistics are reported in size categories above the 50 employee threshold for manufacturing companies and the 15 employee threshold for nonmanufacturing companies. For more information, see "frame creation" and "sample selection" in the technical notes in Section B.

KEY: (D) = Data have been withheld to avoid disclosing operations of individual companies.
(S) = Indicates imputation of more than 50 percent.
(--) = Indicates data not collected.

NOTE: The number of full-time-equivalent R&D scientists and engineers used to estimate the cost per R&D scientist or engineer is the arithmetic mean of the numbers of R&D scientists and engineers reported for January in two consecutive years. This number is then divided into the total R&D expenditures of the earlier year, and the ratio is attributed to the earlier year.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-35. **R&D funds per full-time equivalent (FTE) R&D scientist or engineer spent by companies that performed industrial R&D in the U.S., ranked by size of R&D program: 1989–2000**

Companies ranked by size of R&D program	1989 [1]	1990 [1]	1991 [1,2]	1992 [2]	1993 [2]	1994 [2]	1995 [2]	1996 [2]	1997 [2]	1998 [2]	1999 [2,3]	2000 [2]
	[Dollars]											
First 4	218,100	219,600	213,200	202,492	252,629	218,906	234,791	231,784	(S) 229,602	242,408	(S) 289,072	(S) 283,219
Next 4	225,800	249,000	223,700	238,950	199,559	(S) 245,626	(S) 188,928	(S) 185,032	180,389	193,597	192,657	199,586
Next 12	148,700	129,100	159,900	170,276	199,118	188,437	190,548	202,670	(S) 238,022	239,162	(S) 266,117	(S) 265,044
Next 20	132,500	145,800	(S)	(S)	(S)	182,699	204,159	210,552	213,496	196,276	(S) 208,682	(S) 251,340
Next 60	145,400	164,200	170,500	181,760	193,925	181,163	196,023	202,405	206,350	208,144	203,559	224,965
Next 100	141,900	137,000	169,000	173,101	138,227	174,524	162,707	160,560	155,255	162,965	162,654	176,239
Next 200	106,100	120,200	121,000	126,545	140,292	156,025	152,977	151,812	157,347	154,395	161,664	238,522
Average of above 400 R&D performing companies	161,500	161,200	169,000	158,098	154,814	174,536	167,339	168,362	171,495	173,585	179,880	232,405

[1] As a result of a new sample design, statistics for 1989–91 have been revised since originally published. These statistics now better reflect R&D performance among firms in the nonmanufacturing industries and small firms in all industries. For more information, see the technical notes in Section B.

[2] As a result of the new sample design, statistics for 1991 and later years are not directly comparable with statistics for 1990 and earlier years. For more information, see the technical notes in Section B.

[3] Statistics for 1999 have been revised since originally published.

KEY: (S) = Indicates imputation of more than 50 percent. Prior to 1994, data have been withheld.

NOTE: The number of full-time-equivalent R&D scientists and engineers used to estimate the cost per R&D scientist or engineer is the arithmetic mean of the numbers of R&D scientists and engineers reported for January in two consecutive years. This number is then divided into the total R&D expenditures of the earlier year, and the ratio is attributed to the earlier year.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000

Table A-36. **Full-time equivalent (FTE) R&D scientists and engineers per 1,000 employees in companies that performed industrial R&D in the U.S., by industry and size of company: 1997–2000**

Industry and size of company	NAICS codes	1997	1998	1999 [1]	2000
Distribution by industry:					
All industries [2]	21–23, 31–33, 42, 44–81	47	55	57	59
Manufacturing	31–33	--	--	55	55
Food	311	8	10	8	6
Beverage and tobacco products	312	(S) 19	17	25	23
Textiles, apparel, and leather	313–16	9	8	31	9
Wood products	321	(S) 8	7	10	(S) 18
Paper, printing and support activities	322, 323	(S) 20	(S) 18	(S) 20	(S) 19
Petroleum and coal products	324	30	29	26	(S) 15
Chemicals	325	89	91	84	98
Basic chemicals	3251	68	89	60	71
Resin, synthetic rubber, fibers, and filament	3252	53	59	65	77
Pharmaceuticals and medicines	3254	144	141	133	136
Other chemicals	325 (minus 3251–52, 3254)	(S) 65	60	(S) 61	(S) 77
Plastics and rubber products	326	22	22	24	24
Nonmetallic mineral products	327	(S) 24	(S) 18	15	30
Primary metals	331	(S) 13	(S) 12	(S) 13	(S) 13
Fabricated metal products	332	19	17	13	15
Machinery	333	52	53	60	69
Computer and electronic products	334	137	152	(S) 147	(S) 152
Computers and peripheral equipment	3341	168	156	127	135
Communications equipment	3342	160	(S) 235	(S) 217	(S) 195
Semiconductor and other electronic components	3344	(S) 129	(S) 119	(S) 141	(S) 132
Navigational, measuring, electromedical, and control instruments	3345	(S) 122	(S) 125	133	146
Other computer and electronic products	334 (minus 3341–42, 3344–45)	128	114	112	86
Electrical equipment, appliances, and components	335	50	31	37	44
Transportation equipment	336	(S) 68	58	65	53
Motor vehicles, trailers, and parts	3361–63	56	46	64	60
Aerospace products and parts	3364	(S) 90	(S) 83	(S) 72	43
Other transportation equipment	336 (minus 3361–64)	22	21	40	(S) 38
Furniture and related products	337	13	(S) 12	10	(S) 9
Miscellaneous manufacturing	339	43	41	43	50
Medical equipment and supplies	3391	(S) 58	(S) 53	53	58
Other miscellaneous manufacturing	339 (minus 3391)	21	26	29	35
Other manufacturing [3]	31–33 (minus 311–16, 321–27, 331–37, 339)	(S) 10	(D)	--	--
Small manufacturing companies [4]	Fewer than 50 employees	80	106	107	37

See explanatory information and SOURCE at end of table.

Table A-36. **Full-time equivalent (FTE) R&D scientists and engineers per 1,000 employees in companies that performed industrial R&D in the U.S., by industry and size of company: 1997–2000**

Industry and size of company	NAICS codes	1997	1998	1999 [1]	2000
Distribution by industry:					
Nonmanufacturing	21–23, 42, 44–81	--	--	60	65
Mining, extraction, and support activities	21	27	27	16	29
Utilities	22	2	2	2	1
Construction	23	25	85	52	8
Trade	42, 44, 45	73	60	92	76
Transportation and warehousing	48, 49	2	1	1	3
Information	51	46	76	68	75
Publishing	511	156	197	230	248
Newspaper, periodical, book, and database	5111	11	22	26	31
Software	5112	309	310	344	358
Broadcasting and telecommunications	513	(S) 12	(S) 18	(S) 14	(S) 12
Radio and television broadcasting	5131	(D)	(D)	(D)	(D)
Telecommunications	5133	(S) 8	(S) 12	(D)	(D)
Other broadcasting and telecommunications	513 (minus 5131, 5133)	(D)	(D)	(D)	356
Other information	51 (minus 511, 513)	70	101	114	95
Finance, insurance, and real estate	52, 53	20	18	20	25
Professional, scientific, and technical services	54	158	144	173	201
Architectural, engineering, and related services	5413	141	156	180	(S) 207
Computer systems design and related services	5415	167	147	162	174
Scientific R&D services	5417	303	324	348	366
Other professional, scientific, and technical services	54 (minus 5413, 5415, 5417)	(S) 48	32	40	61
Management of companies and enterprises	55	(S) 212	302	65	110
Health care services	621–23	42	47	84	20
Other nonmanufacturing [3]	56, 61, 624, 71, 72, 81	6	12	7	8
Small nonmanufacturing companies [4]	Fewer than 15 employees	286	254	173	485

See explanatory information and SOURCE at end of table.

Table A-36. **Full-time equivalent (FTE) R&D scientists and engineers per 1,000 employees in companies that performed industrial R&D in the U.S., by industry and size of company: 1997–2000**

Industry and size of company	NAICS codes	1997	1998	1999 [1]	2000
Distribution by size of company: [Number of employees]					
Total	(na)	47	55	57	59
5 to 24	(na)	203	229	249	295
25 to 49	(na)	129	123	144	179
50 to 99	(na)	114	111	163	111
100 to 249	(na)	77	91	81	94
250 to 499	(na)	87	68	68	79
500 to 999	(na)	52	56	82	92
1,000 to 4,999	(na)	48	50	58	49
5,000 to 9,999	(na)	45	50	58	(S) 59
10,000 to 24,999	(na)	37	42	37	56
25,000 or more	(na)	(S) 39	47	45	(S) 46

[1] Some statistics for 1999 have been revised since originally published.

[2] The totals for "all industries" prior to 1999 are identical to corresponding totals previously published using the Standard Industrial Classification (SIC) system. Also, pre-1999 detail published using the North American Industry Classification System (NAICS) may not add to the totals. See the 'NOTE' below.

[3] Manufacturing companies in the 1997 and 1998 samples that could not be classified with a NAICS code are included in "other manufacturing;" nonmanufacturing companies that could not be classified with a NAICS code are included in "other nonmanufacturing."

[4] The frame from which the statistical sample was selected was divided into two partitions based on total company employment. In the manufacturing sector, companies with employment of 50 or more were included in the large company partition. In the nonmanufacturing sector, companies with employment of 15 or more were included in the large company partition. Companies in the respective sectors with employment below these values, but with at least 5 employees, were included in the small company partition. The purpose of partitioning the sample this way was to reduce the variability in industry estimates largely attributed to the random year-to-year selection of small companies by industry and the high sampling weights that sometimes were assigned to them. Because of this, detailed industry statistics were possible only from the large company partition; detailed industry statistics from the small company partition were not possible. Statistics from the small company partition are shown separately and are included in manufacturing, nonmanufacturing, and all industries totals. For more information, see "frame creation" and "sample selection" in the technical notes in Section B.

KEY: (D) = Data have been withheld to avoid disclosing operations of individual companies.
(S) = Indicates imputation of more than 50 percent.
(--) = Indicates data not collected.
(na) = Not applicable.

NOTES: Starting with the 1999 survey, estimates are based on the North American Industry Classification System (NAICS). In prior years, estimates were based on the Standard Industrial Classification (SIC) system. For this table, companies in the 1997 and 1998 surveys were assigned NAICS industry codes based on their SIC industry codes. Consequently, the estimates for 1997 and 1998 in this table are not necessarily representative of the NAICS categories of industries in those years. They are included for comparison purposes only.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Industrial Research and Development: 2000