

Appendix table 4-7

U.S. basic research expenditures, by performing sector and source of funds: 1953–2002

(Millions of current dollars)

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Year	Performing sector:	Total	Federal	Industry			Industry FFRDCs	U&C ^a					U&C FFRDCs	Other nonprofit institutions			Nonprofit FFRDCs		
	Funding sector:	Total	Federal	Total	Federal ^b	Industry ^c	Federal ^b	Total	Federal	Non-Federal ^d	Industry	U&C	Non-profits	Federal ^e	Total	Federal ^b	Industry	Non-profits	Federal ^b
1953		460	102	151	19	132	—	123	82	7	13	6	16	36	48	27	9	12	—
1954		509	96	166	23	143	—	148	97	10	15	8	18	44	55	31	11	13	—
1955		579	98	189	27	162	—	180	117	14	17	12	21	50	63	36	13	14	—
1956		718	114	253	37	216	—	220	143	19	20	15	24	58	74	42	15	17	—
1957		814	124	271	41	230	—	261	167	25	23	20	27	72	87	49	15	23	—
1958		944	149	295	43	252	—	312	202	31	24	24	31	85	103	59	16	28	—
1959		1,087	165	320	72	248	—	388	263	38	24	28	36	95	120	72	18	30	—
1960		1,286	184	376	79	297	—	485	341	45	25	33	41	106	136	85	21	30	—
1961		1,512	230	395	81	314	—	598	432	54	25	40	48	126	164	105	22	37	—
1962		1,824	252	488	143	345	—	737	546	64	25	48	55	148	200	130	24	46	—
1963		2,115	285	522	147	375	—	909	689	75	25	58	63	175	225	150	25	50	—
1964		2,390	339	507	123	384	36	1,071	824	84	25	70	68	200	238	166	25	47	—
1965		2,665	375	563	157	406	30	1,221	944	94	27	86	70	218	260	179	29	52	—
1966		2,932	410	593	142	451	33	1,380	1,066	104	29	106	75	239	278	188	32	58	—
1967		3,168	434	595	168	427	35	1,554	1,188	114	34	136	83	263	289	194	34	61	—
1968		3,377	482	607	145	462	36	1,681	1,265	131	38	156	91	276	296	196	37	63	—
1969		3,490	545	581	123	458	37	1,754	1,288	153	40	171	103	272	302	192	43	67	—
1970		3,592	562	566	122	444	35	1,855	1,323	179	43	196	115	265	311	195	44	72	—
1971		3,723	581	557	101	456	36	1,968	1,385	194	50	214	127	252	329	207	45	77	—
1972		3,849	603	554	91	463	38	2,038	1,437	195	55	216	134	270	347	216	47	84	—
1973		4,106	652	595	96	499	43	2,103	1,489	196	59	223	137	343	371	232	49	90	—
1974		4,513	715	650	114	536	51	2,282	1,609	204	66	250	153	415	401	245	54	102	—
1975		4,883	760	677	104	573	61	2,480	1,768	212	72	264	164	476	430	255	59	116	—
1976		5,376	850	750	116	634	72	2,675	1,924	218	75	283	175	556	474	278	65	131	—
1977		6,013	943	836	135	701	80	2,967	2,114	232	89	334	198	667	521	301	72	148	—
1978		6,961	1,044	941	156	785	97	3,376	2,399	260	107	398	213	906	598	351	79	168	—
1979		7,840	1,112	1,054	161	893	108	3,828	2,719	286	128	466	229	1,050	689	413	87	190	—
1980		8,794	1,212	1,205	170	1,035	124	4,315	3,061	307	156	544	248	1,167	771	461	95	215	—
1981		9,828	1,343	1,477	164	1,313	135	4,737	3,331	338	183	615	269	1,284	853	505	105	243	—
1982		10,821	1,522	1,776	253	1,523	125	5,091	3,475	368	215	716	317	1,366	941	551	115	275	—
1983		12,064	1,733	2,106	346	1,760	122	5,518	3,689	396	260	816	358	1,536	1,050	613	127	311	—
1984		13,483	1,877	2,472	340	2,132	135	6,145	4,087	436	313	915	395	1,709	1,147	656	139	351	—
1985		14,854	1,947	2,731	358	2,373	128	7,024	4,606	514	389	1,075	440	1,793	1,231	681	153	397	—
1986		17,253	2,026	3,930	434	3,496	123	7,943	5,122	606	466	1,262	488	1,915	1,317	700	168	449	—
1987		18,547	2,047	4,181	598	3,583	191	8,644	5,527	659	514	1,399	545	2,086	1,399	707	185	507	—
1988		19,801	2,116	4,163	656	3,507	352	9,343	5,937	705	565	1,529	607	2,272	1,531	756	203	573	24
1989		21,914	2,309	4,818	986	3,832	423	10,218	6,422	766	637	1,714	680	2,371	1,730	860	223	647	46
1990		23,018	2,319	4,629	869	3,760	490	11,125	6,888	847	705	1,929	756	2,470	1,922	947	245	730	65
1991		27,143	2,378	7,376	1,251	6,125	464	12,061	7,423	912	764	2,127	836	2,657	2,129	1,036	269	825	77
1992		27,608	2,419	6,528	712	5,816	479	12,910	8,058	941	814	2,202	893	2,867	2,340	1,114	295	931	67

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	Funding sector:	Total	Federal	Total	Federal ^b	Industry ^c	Federal ^b	Total	Federal	Non-Federal ^d	Industry	U&C	Non-profits	Federal ^e	Total	Federal ^b	Industry	Non-profits	Federal ^b
1993		28,742	2,621	6,427	466	5,961	495	13,643	8,637	952	851	2,268	936	2,953	2,532	1,157	324	1,051	72
1994		29,650	2,547	6,514	436	6,078	510	14,393	9,135	991	889	2,405	973	2,934	2,678	1,137	356	1,186	75
1995		29,647	2,689	5,569	190	5,379	575	15,139	9,629	1,069	945	2,509	987	2,702	2,899	1,170	390	1,338	75
1996		32,770	2,680	7,498	650	6,848	687	16,033	10,087	1,148	1,032	2,738	1,028	2,606	3,187	1,248	428	1,510	79
1997		36,903	2,746	9,795	1,029	8,766	611	17,651	10,912	1,250	1,177	3,149	1,163	2,671	3,322	1,317	449	1,557	108
1998		35,252	3,003	5,853	1,002	4,851	564	19,309	11,875	1,331	1,315	3,491	1,296	2,660	3,651	1,461	489	1,701	213
1999		38,710	3,347	6,571	1,209	5,362	546	20,900	12,773	1,429	1,417	3,841	1,439	2,765	4,185	1,734	541	1,910	397
2000		42,367	3,765	6,960	943	6,017	529	22,760	13,887	1,536	1,493	4,250	1,594	2,873	4,864	2,099	612	2,153	616
2001 preliminary		46,723	4,317	7,911	754	7,157	537	24,646	15,127	1,619	1,542	4,649	1,709	2,912	5,495	2,520	616	2,359	904
2002 preliminary		49,567	4,617	7,751	762	6,989	611	26,678	16,484	1,685	1,596	5,082	1,830	2,962	6,020	2,854	601	2,565	928

FFRDC federally funded research and development center

U&C universities and colleges

^aAdjustments have been made to university R&D for 1998 and later years to eliminate double counting of funds passed through from one academic institution to another. The character-of-work estimation procedure for university and college R&D also was revised for 1998 and later years; hence, these data are not directly comparable with data for 1997 and earlier years.

^bExpenditures of industry FFRDCs for 1953–63 were not separated from total Federal support to the industrial sector. Thus, the figure for Federal support to industry includes support to FFRDCs for those years. The same is true for expenditures of nonprofit FFRDCs, which are included in Federal support for nonprofit institutions in 1953–87.

^cIndustry sources of industry R&D expenditures include all non-Federal sources of industry R&D expenditures.

^dBecause of limitations in survey information, data on non-Federal Government funding to other performers are not available and are consequently included in other sectors' support for their own R&D performance. For example, non-Federal Government support to nonprofits is included in nonprofits' support for their own R&D.

^eIncludes all R&D expenditures of FFRDCs administered by academic institutions.

NOTES: Expenditure levels for academic and Federal Government performers are also in reference to calendar years. These levels are approximations based on FY data. For Federal Government expenditures starting in 1977, the calendar-year approximation is 75 percent of the amount reported in the same FY plus 25 percent of the amount reported in the subsequent FY. Academic expenditures in all years and Federal Government expenditures prior to 1977 are 50 and 50 percent, respectively, because those FYs (for most academic institutions and the Federal Government before 1977) began on July 1 instead of October 1. Because of changes in estimation procedures, character-of-work data before 1998 for industry and for U&C are not comparable with data for later years.

Technical notes explaining methodological issues of measurement will be provided in NSF, *The Methodology Underlying the Measurement of R&D Expenditures: 2002* (Arlington, VA, forthcoming). Data are based on annual reports by performers except for the nonprofit sector. Data are preliminary for 2001 and 2002. For trend comparisons, use only the historical data reported here. Do not use data published earlier.

SOURCES: Data were derived from National Science Foundation, Division of Science Resources Statistics, *National Patterns of R&D Resources*, annual series.