

Appendix table 4-9

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

(Millions of current dollars)

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Year	Funding sector:	Total	Federal Government							Industry				U&C	Nonprofits			Non-Federal ^a	
	Performing sector:		Total	Total	Federal	Industry ^b	Industry FFRDCs ^b	U&C ^c	U&C FFRDCs ^d	Non-profits ^b	Nonprofit FFRDCs ^b	Total	Industry ^e	U&C ^c	Non-profits	U&C ^c	Total	Non-profits	U&C ^c
1953		460	265	102	19	—	82	36	27	—	154	132	13	9	6	28	12	16	7
1954		509	291	96	23	—	97	44	31	—	169	143	15	11	8	31	13	18	10
1955		579	327	98	27	—	117	50	36	—	192	162	17	13	12	35	14	21	14
1956		718	393	114	37	—	143	58	42	—	251	216	20	15	15	41	17	24	19
1957		814	452	124	41	—	167	72	49	—	268	230	23	15	20	50	23	27	25
1958		944	538	149	43	—	202	85	59	—	292	252	24	16	24	59	28	31	31
1959		1,087	666	165	72	—	263	95	72	—	290	248	24	18	28	66	30	36	38
1960		1,286	794	184	79	—	341	106	85	—	343	297	25	21	33	71	30	41	45
1961		1,512	973	230	81	—	432	126	105	—	361	314	25	22	40	85	37	48	54
1962		1,824	1,218	252	143	—	546	148	130	—	394	345	25	24	48	101	46	55	64
1963		2,115	1,446	285	147	—	689	175	150	—	425	375	25	25	58	113	50	63	75
1964		2,390	1,687	339	123	36	824	200	166	—	434	384	25	25	70	115	47	68	84
1965		2,665	1,901	375	157	30	944	218	179	—	462	406	27	29	86	122	52	70	94
1966		2,932	2,077	410	142	33	1,066	239	188	—	512	451	29	32	106	133	58	75	104
1967		3,168	2,280	434	168	35	1,188	263	194	—	495	427	34	34	136	144	61	83	114
1968		3,377	2,400	482	145	36	1,265	276	196	—	537	462	38	37	156	154	63	91	131
1969		3,490	2,456	545	123	37	1,288	272	192	—	541	458	40	43	171	170	67	103	153
1970		3,592	2,500	562	122	35	1,323	265	195	—	531	444	43	44	196	187	72	115	179
1971		3,723	2,562	581	101	36	1,385	252	207	—	551	456	50	45	214	204	77	127	194
1972		3,849	2,654	603	91	38	1,437	270	216	—	565	463	55	47	216	218	84	134	195
1973		4,106	2,853	652	96	43	1,489	343	232	—	607	499	59	49	223	227	90	137	196
1974		4,513	3,148	715	114	51	1,609	415	245	—	656	536	66	54	250	254	102	153	204
1975		4,883	3,423	760	104	61	1,768	476	255	—	704	573	72	59	264	280	116	164	212
1976		5,376	3,796	850	116	72	1,924	556	278	—	774	634	75	65	283	305	131	175	218
1977		6,013	4,240	943	135	80	2,114	667	301	—	862	701	89	72	334	346	148	198	232
1978		6,961	4,953	1,044	156	97	2,399	906	351	—	970	785	107	79	398	380	168	213	260
1979		7,840	5,562	1,112	161	108	2,719	1,050	413	—	1,107	893	128	87	466	419	190	229	286
1980		8,794	6,195	1,212	170	124	3,061	1,167	461	—	1,286	1,035	156	95	544	463	215	248	307
1981		9,828	6,762	1,343	164	135	3,331	1,284	505	—	1,600	1,313	183	105	615	512	243	269	338
1982		10,821	7,292	1,522	253	125	3,475	1,366	551	—	1,854	1,523	215	115	716	591	275	317	368
1983		12,064	8,037	1,733	346	122	3,689	1,536	613	—	2,146	1,760	260	127	816	668	311	358	396
1984		13,483	8,803	1,877	340	135	4,087	1,709	656	—	2,584	2,132	313	139	915	746	351	395	436
1985		14,854	9,512	1,947	358	128	4,606	1,793	681	—	2,915	2,373	389	153	1,075	837	397	440	514
1986		17,253	10,320	2,026	434	123	5,122	1,915	700	—	4,130	3,496	466	168	1,262	936	449	488	606
1987		18,547	11,156	2,047	598	191	5,527	2,086	707	—	4,282	3,583	514	185	1,399	1,052	507	545	659
1988		19,801	12,113	2,116	656	352	5,937	2,272	756	24	4,274	3,507	565	203	1,529	1,180	573	607	705
1989		21,914	13,417	2,309	986	423	6,422	2,371	860	46	4,692	3,832	637	223	1,714	1,326	647	680	766
1990		23,018	14,046	2,319	869	490	6,888	2,470	947	65	4,710	3,760	705	245	1,929	1,486	730	756	847
1991		27,143	15,286	2,378	1,251	464	7,423	2,657	1,036	77	7,157	6,125	764	269	2,127	1,660	825	836	912
1992		27,608	15,715	2,419	712	479	8,058	2,867	1,114	67	6,925	5,816	814	295	2,202	1,824	931	893	941

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	Performing sector:		Total	Federal	Industry ^b	Industry FFRDCs ^b	U&C ^c	U&C FFRDCs ^d	Non-profits ^b	Nonprofit FFRDCs ^b	Total	Industry ^e	U&C ^c	Non-profits	U&C ^c	Total	Non-profits	U&C ^c	U&C ^c
1993		28,742	16,400	2,621	466	495	8,637	2,953	1,157	72	7,136	5,961	851	324	2,268	1,987	1,051	936	952
1994		29,650	16,773	2,547	436	510	9,135	2,934	1,137	75	7,323	6,078	889	356	2,405	2,159	1,186	973	991
1995		29,647	17,030	2,689	190	575	9,629	2,702	1,170	75	6,714	5,379	945	390	2,509	2,325	1,338	987	1,069
1996		32,770	18,037	2,680	650	687	10,087	2,606	1,248	79	8,308	6,848	1,032	428	2,738	2,538	1,510	1,028	1,148
1997		36,903	19,394	2,746	1,029	611	10,912	2,671	1,317	108	10,392	8,766	1,177	449	3,149	2,719	1,557	1,163	1,250
1998		35,252	20,777	3,003	1,002	564	11,875	2,660	1,461	213	6,655	4,851	1,315	489	3,491	2,998	1,701	1,296	1,331
1999		38,710	22,770	3,347	1,209	546	12,773	2,765	1,734	397	7,320	5,362	1,417	541	3,841	3,349	1,910	1,439	1,429
2000		42,367	24,713	3,765	943	529	13,887	2,873	2,099	616	8,122	6,017	1,493	612	4,250	3,747	2,153	1,594	1,536
2001 preliminary		46,723	27,071	4,317	754	537	15,127	2,912	2,520	904	9,316	7,157	1,542	616	4,649	4,068	2,359	1,709	1,619
2002 preliminary		49,567	29,218	4,617	762	611	16,484	2,962	2,854	928	9,186	6,989	1,596	601	5,082	4,395	2,565	1,830	1,685

FFRDC federally funded research and development center

U&C universities and colleges

^aBecause 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.

^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.

^cAdjustments 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.

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

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

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.