

Appendix table 4-3

U.S. R&D 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 ^b		
	Funding sector:	Total	Federal	Total	Federal ^c	Industry ^d	Federal ^e	Total	Federal	Non-Federal ^e	Industry	U&C	Non-profits	Federal ^f	Total	Federal ^c	Industry	Non-profits	Federal ^g
1953		5,160	1,015	3,630	1,430	2,200	—	273	149	40	21	37	27	131	112	58	26	28	—
1954		5,621	963	4,070	1,750	2,320	—	301	165	45	24	40	29	161	127	65	31	31	—
1955		6,386	973	4,517	2,057	2,460	228	342	191	50	27	42	32	187	131	64	35	32	9
1956		8,537	1,130	6,272	2,995	3,277	370	391	221	57	32	46	36	217	146	71	37	38	11
1957		9,866	1,297	7,324	3,928	3,396	365	433	242	64	37	51	40	267	167	79	37	51	14
1958		10,963	1,507	8,066	4,436	3,630	371	491	280	72	39	56	45	316	195	95	38	62	18
1959		12,519	1,681	9,200	5,217	3,983	448	586	356	81	40	61	50	349	234	125	42	67	22
1960		13,750	1,801	10,032	5,604	4,428	516	705	453	90	40	67	55	385	264	148	48	68	48
1961		14,500	1,987	10,353	5,685	4,668	491	834	557	101	40	75	62	440	304	169	49	86	92
1962		15,630	2,188	11,037	6,008	5,029	420	993	687	112	41	84	70	500	363	200	54	109	130
1963		17,543	2,558	12,216	6,856	5,360	439	1,178	839	125	41	96	78	580	408	234	55	119	165
1964		19,058	2,965	13,049	7,257	5,792	418	1,375	995	138	41	114	88	629	417	250	55	112	205
1965		20,243	3,156	13,812	7,367	6,445	364	1,595	1,167	150	42	136	101	630	472	286	62	124	215
1966		22,104	3,308	15,193	7,977	7,216	387	1,818	1,335	160	45	165	114	652	537	329	70	138	210
1967		23,344	3,444	15,966	7,946	8,020	417	2,035	1,491	168	52	200	126	696	561	342	74	145	225
1968		24,691	3,497	17,014	8,145	8,869	440	2,187	1,586	185	58	221	139	722	596	364	81	151	235
1969		26,000	3,790	17,844	7,987	9,857	469	2,280	1,624	208	61	233	155	731	642	388	93	161	245
1970		26,280	4,154	17,594	7,306	10,288	482	2,418	1,686	237	66	259	171	727	677	410	95	172	230
1971		26,980	4,409	17,829	7,175	10,654	520	2,565	1,760	262	72	290	182	735	709	427	98	184	215
1972		28,739	4,676	19,004	7,469	11,535	547	2,757	1,890	282	79	312	195	785	771	472	101	198	200
1973		31,003	4,837	20,704	7,600	13,104	597	2,953	2,009	302	90	343	211	841	882	566	105	211	190
1974		33,398	5,132	22,239	7,572	14,667	688	3,216	2,160	320	104	393	239	926	988	639	114	235	210
1975		35,753	5,561	23,460	7,878	15,582	809	3,570	2,400	348	118	432	272	1,067	1,062	675	124	262	225
1976		39,471	5,890	26,107	8,671	17,436	926	3,899	2,619	369	131	480	300	1,266	1,139	711	135	292	245
1977		43,368	6,211	28,863	9,523	19,340	992	4,346	2,893	394	155	569	337	1,467	1,213	740	147	326	275
1978		48,740	6,962	32,222	10,107	22,115	1,103	4,996	3,329	443	182	679	364	1,772	1,353	830	160	363	333
1979		55,407	7,471	37,062	11,354	25,708	1,192	5,715	3,848	482	215	785	386	2,013	1,564	985	174	405	390
1980		63,240	7,831	43,228	12,752	30,476	1,304	6,455	4,335	519	264	920	419	2,306	1,641	1,000	189	452	475
1981		72,293	8,605	50,425	14,997	35,428	1,410	7,085	4,670	581	314	1,058	463	2,484	1,747	1,038	206	504	538
1982		80,808	9,501	57,166	17,061	40,105	1,509	7,603	4,879	621	363	1,207	534	2,544	1,961	1,175	224	561	525
1983		90,010	10,830	63,683	19,095	44,588	1,624	8,251	5,210	658	432	1,357	595	2,840	2,182	1,313	244	626	600
1984		102,282	11,916	73,061	21,657	51,404	1,770	9,154	5,748	721	518	1,514	654	3,243	2,513	1,550	265	698	625
1985		114,692	13,093	82,376	25,333	57,043	1,870	10,308	6,388	834	630	1,743	713	3,616	2,767	1,700	289	778	663
1986		120,285	13,504	85,932	26,000	59,932	1,917	11,540	7,028	969	745	2,019	780	3,973	2,882	1,700	314	867	538
1987		126,249	13,588	90,160	28,757	61,403	2,027	12,807	7,768	1,065	831	2,262	882	4,287	2,878	1,569	342	967	501
1988		133,898	14,342	94,893	28,221	66,672	2,140	14,220	8,592	1,165	933	2,527	1,003	4,581	3,213	1,762	372	1,078	510
1989		141,921	15,231	99,860	26,359	73,501	2,227	15,632	9,315	1,274	1,061	2,852	1,131	4,756	3,669	2,062	405	1,202	547
1990		151,978	15,671	107,404	25,802	81,602	2,312	16,936	9,936	1,399	1,166	3,187	1,249	4,894	4,126	2,346	440	1,340	636
1991		160,891	15,249	114,675	24,095	90,580	2,296	18,203	10,664	1,483	1,242	3,457	1,358	5,120	4,652	2,679	479	1,494	696
1992		165,250	15,853	116,757	22,369	94,388	2,256	19,385	11,525	1,525	1,320	3,568	1,448	5,259	4,993	2,806	521	1,666	748

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	Funding sector:	Total	Federal	Total	Federal ^c	Industry ^d	Federal ^e	Total	Federal	Non-Federal ^e	Industry	U&C	Non-profits	Federal ^f	Total	Federal ^c	Industry	Non-profits	Federal ^g
1993		165,782	16,531	115,435	20,844	94,591	2,024	20,487	12,302	1,557	1,391	3,708	1,530	5,289	5,267	2,843	567	1,857	749
1994		169,212	16,355	117,392	20,261	97,131	2,220	21,595	12,987	1,622	1,456	3,937	1,594	5,294	5,599	2,911	617	2,071	758
1995		183,617	16,904	129,830	21,178	108,652	2,279	22,603	13,582	1,750	1,547	4,109	1,616	5,367	5,827	2,847	671	2,308	808
1996		197,288	16,585	142,371	21,356	121,015	2,255	23,702	14,073	1,860	1,671	4,434	1,665	5,395	6,209	2,906	730	2,574	772
1997		212,121	16,819	155,409	21,798	133,611	2,117	24,866	14,517	1,921	1,807	4,836	1,785	5,463	6,626	3,014	809	2,804	821
1998		226,305	17,362	167,102	22,086	145,016	2,062	26,151	15,147	1,970	1,947	5,168	1,919	5,559	7,225	3,281	880	3,064	843
1999		243,517	17,851	180,712	20,536	160,176	1,999	28,135	16,223	2,095	2,077	5,630	2,110	5,652	8,175	3,761	975	3,440	993
2000		264,725	17,917	197,604	17,183	180,421	1,935	30,633	17,681	2,242	2,180	6,205	2,327	5,741	9,429	4,449	1,103	3,877	1,465
2001 preliminary		273,565	21,048	198,505	16,899	181,606	1,965	33,295	19,332	2,375	2,263	6,819	2,507	5,957	10,667	5,309	1,110	4,248	2,129
2002 preliminary		276,185	23,788	194,430	17,085	177,345	2,235	36,019	21,066	2,472	2,341	7,455	2,685	6,060	11,620	5,918	1,083	4,619	2,034

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. Data for 1998 and later years are not directly comparable to data for 1997 and earlier years. For FY 1998, \$479 million in passthrough funds were reported. For FY 2002, \$865 million in passthrough funds are estimated.

^bBeginning in 2001, data for nonprofit FFRDCs are reported by FFRDCs. In prior years, data were collected from the Federal agencies supporting the FFRDCs.

^cExpenditures of industry FFRDCs for 1953–54 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 1953–54.

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

^eBecause of limitations in the 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 nonprofit support for their own R&D.

^fIncludes 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 before 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. Technical notes explaining methodological issues of measurement will be provided in National Science Foundation, *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. This table incorporates the latest revisions to prior-year data. Do not use data published earlier.

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