

Appendix table 4-15

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

(Millions of current dollars)

(Page 1 of 2)

Year	Performing sector:	Total	Federal	Industry			Industry FFRDCs	U&C <sup>a</sup>					U&C FFRDCs	Other nonprofit institutions			Nonprofit FFRDCs		
	Funding sector:			Total	Federal <sup>b</sup>	Industry <sup>c</sup>		Federal <sup>b</sup>	Total	Federal	Non-Federal <sup>d</sup>	Industry		U&C	Non-profits	Federal <sup>e</sup>		Total	Federal <sup>b</sup>
1953		3,412	567	2,753	1,123	1,630	—	16	9	3	1	3	1	48	29	17	6	6	—
1954		3,734	537	3,090	1,405	1,685	—	17	9	3	1	3	1	59	32	18	7	7	—
1955		4,189	543	3,523	1,785	1,738	—	21	12	4	2	3	1	69	34	19	8	7	—
1956		5,855	631	5,084	2,817	2,267	—	25	14	4	2	4	2	81	35	20	8	7	—
1957		6,681	728	5,790	3,616	2,174	—	26	12	5	3	4	2	101	37	21	8	8	—
1958		7,214	842	6,183	3,942	2,241	—	28	13	6	3	4	2	120	42	25	8	9	—
1959		8,463	940	7,307	4,750	2,557	—	31	16	6	3	5	2	134	51	32	9	10	—
1960		9,360	1,003	8,104	5,169	2,935	—	35	19	6	3	5	2	151	69	49	10	10	—
1961		9,930	1,090	8,536	5,347	3,189	—	38	22	7	2	5	2	170	97	73	10	14	—
1962		10,116	1,227	8,527	5,281	3,246	—	40	23	8	2	6	2	190	132	103	11	18	—
1963		11,540	1,465	9,651	6,116	3,535	—	40	22	8	2	6	2	219	165	134	11	20	—
1964		12,476	1,680	10,004	6,156	3,848	329	49	30	8	2	7	3	227	188	159	11	18	—
1965		13,202	1,789	10,637	6,218	4,419	285	71	48	9	2	8	4	207	215	183	12	20	—
1966		14,505	1,886	11,810	6,849	4,961	287	87	61	9	2	10	5	200	236	199	14	23	—
1967		15,327	1,943	12,539	6,795	5,744	298	93	66	9	3	10	7	208	247	208	15	24	—
1968		16,173	1,904	13,370	7,044	6,326	313	102	72	8	4	9	9	226	259	217	16	26	—
1969		17,055	2,016	14,071	6,944	7,127	336	110	80	7	5	8	10	246	277	231	18	28	—
1970		16,950	2,258	13,698	6,232	7,466	366	112	84	6	5	7	10	249	268	220	18	30	—
1971		17,404	2,473	13,924	6,167	7,757	397	98	69	8	4	9	9	267	246	194	19	33	—
1972		18,742	2,639	15,043	6,533	8,510	401	101	63	12	4	14	9	291	267	213	19	35	—
1973		20,237	2,657	16,394	6,621	9,773	439	126	71	18	5	20	13	296	326	268	20	38	—
1974		21,532	2,765	17,421	6,553	10,868	507	141	75	20	7	25	15	321	377	314	22	42	—
1975		22,765	2,890	18,352	6,783	11,569	595	156	83	22	8	27	16	373	400	330	23	47	—
1976		25,096	2,972	20,412	7,522	12,890	665	182	100	24	12	31	16	447	418	341	25	52	—
1977		27,687	3,188	22,603	8,275	14,328	695	254	153	28	15	40	19	503	444	359	27	58	—
1978		31,070	3,676	25,216	8,756	16,460	767	373	254	32	15	49	24	542	496	403	30	64	—
1979		35,463	3,944	29,033	9,888	19,145	828	469	336	34	16	56	28	603	586	483	32	71	—
1980		40,695	4,072	33,848	10,957	22,891	899	518	362	38	19	68	31	719	639	525	35	79	—
1981		46,057	4,530	38,547	12,791	25,756	960	568	386	44	24	80	35	778	674	549	37	88	—
1982		51,696	5,178	43,434	14,215	29,219	1,005	597	397	46	27	88	39	745	737	599	40	98	—
1983		57,540	6,106	48,064	15,522	32,542	1,055	617	399	47	31	97	43	832	867	715	44	109	—
1984		66,273	7,078	55,371	17,640	37,731	1,068	677	435	51	37	108	47	986	1,093	925	47	120	—
1985		74,428	8,011	62,020	20,258	41,762	1,113	756	486	57	43	120	49	1,244	1,285	1,100	51	134	—
1986		75,775	8,275	62,871	21,517	41,354	1,166	818	513	65	50	136	53	1,504	1,141	938	55	149	—
1987		79,850	8,176	66,789	24,122	42,667	1,276	945	599	73	57	155	61	1,670	996	771	60	165	—
1988		84,569	8,864	70,353	23,719	46,634	1,416	1,098	698	83	66	180	71	1,762	655	407	65	183	420
1989		87,727	9,355	72,725	21,049	51,676	1,427	1,207	773	92	76	205	81	1,782	780	507	70	203	430
1990		94,053	9,700	78,376	18,966	59,410	1,424	1,407	909	99	83	226	89	1,735	920	619	75	226	490
1991		95,101	8,778	80,286	17,256	63,030	1,380	1,533	1,011	103	86	239	94	1,537	1,054	722	82	251	533
1992		99,726	9,098	84,569	17,181	67,388	1,289	1,595	1,054	105	91	246	100	1,452	1,125	758	88	279	599

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(Millions of current dollars)

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	Funding sector:			Total	Federal <sup>b</sup>	Industry <sup>c</sup>		Federal <sup>b</sup>	Total	Federal	Non-Federal <sup>d</sup>	Industry		U&C	Non-profits	Federal <sup>b</sup>		Total	Federal <sup>b</sup>
1993 .....		99,744	9,071	84,757	16,083	68,674	1,078	1,698	1,126	109	97	259	107	1,374	1,191	787	95	309	574
1994 .....		102,939	8,823	87,890	16,209	71,681	1,199	1,815	1,212	114	102	276	112	1,378	1,261	815	103	343	573
1995 .....		113,115	9,262	97,342	17,824	79,518	1,246	1,810	1,178	123	108	288	113	1,616	1,236	744	111	381	603
1996 .....		121,359	9,033	105,863	17,066	88,797	1,342	1,790	1,127	128	115	305	115	1,520	1,241	698	120	423	571
1997 .....		128,671	9,077	113,184	18,121	95,063	1,289	1,705	1,055	121	113	304	112	1,454	1,378	687	155	536	585
1998 .....		144,689	9,214	129,041	18,452	110,589	1,257	1,628	985	115	114	302	112	1,527	1,515	760	168	586	507
1999 .....		152,943	8,974	137,724	16,219	121,505	1,180	1,392	711	120	119	322	121	1,636	1,570	726	187	658	467
2000 .....		165,847	8,047	151,826	13,552	138,274	1,143	1,186	451	127	124	352	132	1,539	1,466	513	211	742	640
2001 preliminary .....		163,233	9,567	147,108	12,542	134,566	1,160	1,299	499	136	130	391	144	1,571	1,606	581	212	813	922
2002 preliminary .....		161,816	11,088	144,088	12,680	131,409	1,320	1,334	477	142	134	427	154	1,452	1,699	608	207	884	835

FFRDC federally funded research and development center

U&amp;C universities and colleges

<sup>a</sup>Adjustments 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.

<sup>b</sup>Expenditures 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.

<sup>c</sup>Industry sources of industry R&D expenditures include all non-Federal sources of industry R&D expenditures.

<sup>d</sup>Because 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.

<sup>e</sup>Includes 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.