

TABLE 8. U.S. applied research expenditures, by source of funds and performing sectors: 1953–2012

Year	Funding source:	All sources	Federal								Industry				U&C	Other nonprofit			Other government <sup>a</sup>
	Performer:	All performers	Total	Federal	Industry <sup>b</sup>	FFRDCs <sup>c</sup>	U&C <sup>d</sup>	U&C	Other nonprofit <sup>e</sup>	Nonprofit FFRDCs <sup>e</sup>	Total	Industry <sup>f</sup>	U&C <sup>d</sup>	Other nonprofit <sup>g</sup>	U&C <sup>d</sup>	Total	Other nonprofit <sup>g</sup>	U&C <sup>d</sup>	U&C <sup>d</sup>
	Current \$millions																		
1953		1,289	756	347	288	NA	59	48	14	NA	456	438	7	11	28	20	10	10	30
1954		1,378	785	330	322	NA	60	58	16	NA	513	492	8	13	28	21	11	10	32
1955		1,514	850	333	368	NA	63	68	18	NA	583	560	9	14	27	22	11	11	32
1956		1,928	1,025	387	474	NA	65	79	21	NA	818	794	10	14	27	25	14	11	33
1957		2,414	1,304	446	678	NA	63	94	24	NA	1,018	992	12	14	27	31	20	11	34
1958		2,758	1,496	516	774	NA	66	111	30	NA	1,163	1,137	12	14	27	37	25	12	35
1959		2,940	1,630	577	813	NA	78	121	43	NA	1,206	1,178	13	15	28	39	27	12	37
1960		3,065	1,732	615	833	NA	93	129	63	NA	1,226	1,196	13	17	29	40	28	12	39
1961		3,123	1,811	668	812	NA	104	145	83	NA	1,195	1,165	13	17	30	48	35	13	40
1962		3,698	2,098	709	1,011	NA	119	163	98	NA	1,471	1,438	14	19	30	58	45	13	41
1963		3,865	2,245	809	1,007	NA	128	186	115	NA	1,483	1,450	14	19	32	63	49	14	42
1964		4,201	2,462	947	978	62	142	203	130	NA	1,593	1,560	14	19	37	65	47	18	45
1965		4,374	2,553	994	992	46	176	206	140	NA	1,654	1,620	13	21	42	79	52	27	46
1966		4,653	2,625	1,012	986	53	208	213	153	NA	1,842	1,804	14	24	48	91	57	34	47
1967		4,848	2,763	1,069	983	83	238	225	166	NA	1,890	1,849	16	25	54	96	60	36	46
1968		5,137	2,811	1,112	956	87	250	221	186	NA	2,125	2,081	16	28	55	101	62	39	46
1969		5,454	2,924	1,229	920	95	257	213	210	NA	2,320	2,272	16	32	54	109	66	43	48
1970		5,752	3,100	1,334	952	97	280	213	225	NA	2,429	2,378	18	33	56	117	70	47	51
1971		5,833	3,091	1,355	907	67	306	216	241	NA	2,494	2,441	19	34	67	121	74	47	61
1972		6,147	3,243	1,434	845	107	391	224	243	NA	2,618	2,562	21	35	82	131	79	52	74
1973		6,655	3,429	1,527	883	110	450	203	257	NA	2,894	2,832	26	36	100	145	83	62	88
1974		7,344	3,634	1,652	905	120	477	191	290	NA	3,333	3,263	32	39	118	163	91	72	96
1975		8,091	4,125	1,912	991	139	550	219	315	NA	3,520	3,440	39	42	141	192	100	92	113
1976		8,976	4,464	2,068	1,033	167	596	263	338	NA	4,001	3,912	45	45	166	218	109	109	127
1977		9,662	4,683	2,081	1,113	212	626	297	355	NA	4,410	4,311	51	48	194	241	120	121	134
1978		10,704	5,080	2,242	1,195	235	676	324	409	NA	4,982	4,870	61	52	232	259	132	128	151
1979		12,097	5,602	2,415	1,305	250	793	360	480	NA	5,797	5,670	71	55	263	273	144	129	161
1980		13,714	6,237	2,546	1,625	275	912	421	458	NA	6,698	6,550	88	60	308	298	158	140	174
1981		16,329	6,905	2,731	2,042	298	953	422	391	68	8,531	8,359	108	64	363	332	173	159	199
1982		18,218	7,689	2,802	2,593	367	1,007	433	398	91	9,553	9,363	121	69	402	367	189	178	207
1983		20,298	8,738	2,991	3,227	414	1,122	473	433	78	10,501	10,286	141	74	443	401	207	194	215
1984		22,451	9,499	2,961	3,677	547	1,226	548	459	80	11,788	11,541	168	79	491	438	226	212	234
1985		25,401	10,930	3,135	4,717	630	1,296	580	490	82	13,191	12,908	198	85	547	471	247	224	262
1986		27,240	10,409	3,204	4,049	629	1,393	554	506	75	15,402	15,082	229	91	620	510	270	240	298

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Year	Funding source:	All sources	Federal									Industry				U&C	Other nonprofit			Other government <sup>a</sup>
	Performer:	All performers	Total	Federal	Industry <sup>b</sup>	FFRDCs <sup>c</sup>	U&C <sup>d</sup>	U&C	Other nonprofit <sup>e</sup>	Nonprofit FFRDCs <sup>e</sup>	Total	Industry <sup>f</sup>	U&C <sup>d</sup>	Other nonprofit <sup>g</sup>	U&C <sup>d</sup>	Total	Other nonprofit <sup>g</sup>	U&C <sup>d</sup>	U&C <sup>d</sup>	
																				FFRDCs <sup>c</sup>
1987		27,951	10,829	3,366	4,037	623	1,643	532	555	74	15,511	15,153	260	98	707	571	295	276	333	
1988		29,528	10,749	3,362	3,846	371	1,958	547	599	66	16,938	16,531	302	105	818	647	322	325	377	
1989		32,277	11,753	3,566	4,324	374	2,121	603	695	70	18,452	17,993	347	112	933	722	352	370	417	
1990		34,897	13,695	3,652	5,967	386	2,140	689	780	81	18,930	18,432	377	120	1,031	788	384	404	453	
1991		38,631	14,280	4,093	5,588	433	2,232	927	921	86	21,946	21,425	392	129	1,091	847	419	428	468	
1992		37,936	13,690	4,337	4,476	507	2,415	940	933	81	21,736	21,184	414	138	1,120	911	456	454	479	
1993		37,283	14,075	4,838	4,295	435	2,542	962	900	103	20,547	19,956	443	148	1,181	984	497	487	496	
1994		36,618	13,800	4,985	3,616	503	2,644	982	960	111	19,995	19,372	464	158	1,256	1,049	541	509	517	
1995		40,936	13,543	4,952	3,164	535	2,779	1,050	934	129	24,418	23,755	494	170	1,311	1,104	589	516	559	
1996		43,170	13,958	4,872	3,640	231	2,864	1,270	960	122	26,076	25,370	524	182	1,390	1,162	640	522	584	
1997		46,554	12,884	4,997	2,648	213	2,550	1,337	1,011	128	30,506	29,782	519	205	1,389	1,223	711	512	553	
1998		46,362	12,822	5,146	2,632	230	2,260	1,372	1,060	123	30,314	29,576	520	218	1,378	1,322	809	513	526	
1999		52,007	13,959	5,530	2,817	274	2,661	1,247	1,300	130	34,599	33,821	542	236	1,463	1,441	891	550	546	
2000		56,681	15,563	6,105	2,682	269	3,194	1,291	1,831	190	37,305	36,494	553	258	1,585	1,657	1,066	591	571	
2001		64,176	18,828	7,052	3,603	821	3,553	1,405	2,150	244	41,219	40,409	549	261	1,712	1,816	1,178	638	601	
2002		50,796	19,280	7,487	2,452	1,090	4,056	1,663	2,267	266	26,880	26,081	546	253	1,911	2,071	1,362	709	654	
2003		61,379	22,553	7,672	4,473	1,413	4,660	1,600	2,487	249	33,672	32,861	553	259	2,098	2,326	1,565	761	729	
2004		69,469	22,714	7,455	4,775	1,459	4,902	1,481	2,448	194	41,483	40,657	562	264	2,158	2,355	1,572	783	758	
2005		70,001	23,639	7,557	5,289	1,414	5,032	1,637	2,432	278	40,850	39,995	575	280	2,247	2,523	1,723	799	743	
2006		76,735	25,124	7,435	6,140	1,314	5,318	1,827	2,592	500	45,925	45,033	593	300	2,331	2,619	1,802	816	736	
2007		83,551	27,906	7,222	8,945	1,168	5,548	1,354	2,583	1,085	49,571	48,625	628	318	2,426	2,878	2,001	877	770	
2008		74,793	25,588	7,316	5,397	1,975	6,144	855	2,600	1,300	42,495	41,467	698	330	2,647	3,220	2,237	983	843	
2009		72,891	31,134	7,874	7,797	2,010	7,708	1,282	3,049	1,414	34,354	33,258	778	319	2,903	3,572	2,445	1,127	928	
2010		79,526	30,349	8,016	4,705	2,249	9,407	1,274	3,041	1,658	41,329	40,201	807	321	3,106	3,770	2,545	1,225	972	
2011		82,425	30,229	7,849	4,404	2,256	10,071	1,318	2,691	1,640	43,955	42,782	835	338	3,398	3,870	2,594	1,276	973	
2012 (preliminary)		86,773	31,382	8,084	5,106	2,387	10,147	1,386	2,682	1,589	46,868	45,650	864	354	3,599	3,950	2,638	1,312	975	
2005 constant \$millions																				
1953		7,970	4,671	2,145	1,781	NA	365	294	87	NA	2,816	2,708	40	68	172	124	62	62	186	
1954		8,442	4,809	2,019	1,973	NA	365	355	98	NA	3,140	3,014	46	80	171	129	67	61	193	
1955		9,117	5,120	2,006	2,217	NA	380	410	108	NA	3,509	3,374	51	84	164	130	66	63	195	
1956		11,227	5,967	2,251	2,761	NA	379	457	119	NA	4,764	4,625	58	82	157	146	82	64	193	
1957		13,603	7,349	2,511	3,821	NA	355	530	132	NA	5,735	5,591	65	79	153	175	113	62	191	
1958		15,203	8,247	2,844	4,267	NA	361	609	165	NA	6,411	6,268	66	77	150	201	138	63	195	
1959		16,015	8,881	3,141	4,429	NA	422	657	232	NA	6,568	6,418	68	82	153	212	147	65	201	
1960		16,469	9,304	3,302	4,476	NA	500	690	336	NA	6,588	6,426	70	91	155	215	150	64	208	
1961		16,592	9,621	3,549	4,314	NA	550	770	438	NA	6,349	6,189	69	90	157	252	186	66	212	
1962		19,380	10,996	3,713	5,299	NA	621	852	511	NA	7,707	7,537	71	100	159	304	236	68	213	

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1963		20,042	11,640	4,196	5,222	NA	661	965	596	NA	7,691	7,520	73	99	168	324	254	70	219	
1964		21,457	12,572	4,834	4,995	317	725	1,037	664	NA	8,134	7,968	69	97	191	329	240	89	231	
1965		21,937	12,803	4,983	4,976	231	880	1,031	702	NA	8,296	8,126	65	105	211	394	261	133	233	
1966		22,693	12,801	4,936	4,809	259	1,015	1,039	744	NA	8,985	8,799	68	117	236	441	278	163	230	
1967		22,942	13,075	5,057	4,652	393	1,124	1,065	786	NA	8,942	8,750	73	118	255	454	284	170	216	
1968		23,319	12,758	5,045	4,340	395	1,133	1,001	844	NA	9,646	9,446	73	127	250	456	281	175	209	
1969		23,593	12,647	5,317	3,980	411	1,110	921	908	NA	10,036	9,828	69	138	233	469	285	184	208	
1970		23,637	12,740	5,481	3,912	399	1,148	875	925	NA	9,979	9,771	72	136	229	479	288	191	210	
1971		22,826	12,096	5,302	3,549	262	1,197	843	941	NA	9,758	9,552	72	133	262	474	290	184	237	
1972		23,059	12,165	5,379	3,170	401	1,465	840	910	NA	9,819	9,611	77	131	307	490	296	193	278	
1973		23,654	12,188	5,428	3,138	391	1,598	720	913	NA	10,285	10,065	92	128	355	514	295	219	311	
1974		23,928	11,841	5,383	2,949	391	1,553	621	945	NA	10,860	10,632	103	126	384	530	297	233	313	
1975		24,087	12,281	5,691	2,950	414	1,636	652	938	NA	10,479	10,241	115	124	418	571	297	274	338	
1976		25,272	12,567	5,823	2,908	470	1,677	739	950	NA	11,265	11,014	125	126	466	615	308	307	359	
1977		25,574	12,395	5,507	2,946	561	1,656	787	940	NA	11,672	11,410	135	127	514	637	318	319	356	
1978		26,473	12,564	5,544	2,955	581	1,671	802	1,011	NA	12,321	12,044	150	128	573	641	325	315	374	
1979		27,620	12,792	5,514	2,980	571	1,810	822	1,096	NA	13,236	12,946	163	127	601	623	329	294	369	
1980		28,697	13,051	5,327	3,400	575	1,909	881	958	NA	14,015	13,706	185	125	644	624	330	293	363	
1981		31,241	13,211	5,226	3,907	570	1,823	808	748	130	16,320	15,992	206	122	694	634	331	304	381	
1982		32,849	13,865	5,052	4,675	662	1,815	780	717	163	17,224	16,883	218	124	725	661	341	321	374	
1983		35,208	15,156	5,188	5,597	718	1,947	821	751	135	18,214	17,841	245	128	769	696	359	337	373	
1984		37,532	15,880	4,950	6,147	914	2,050	917	767	135	19,707	19,294	281	132	821	733	378	355	391	
1985		41,216	17,735	5,087	7,654	1,022	2,104	940	795	133	21,403	20,945	321	138	888	765	401	364	425	
1986		43,243	16,525	5,086	6,428	999	2,211	879	803	120	24,451	23,943	364	144	985	810	429	381	473	
1987		43,121	16,706	5,192	6,228	961	2,534	820	856	114	23,929	23,377	401	151	1,091	881	456	425	514	
1988		44,042	16,032	5,014	5,736	553	2,921	816	893	98	25,263	24,656	450	156	1,220	965	481	484	562	
1989		46,390	16,892	5,126	6,215	538	3,049	866	999	101	26,521	25,861	499	161	1,341	1,038	506	532	599	
1990		48,292	18,952	5,054	8,258	534	2,962	953	1,079	113	26,196	25,507	522	166	1,427	1,091	531	559	626	
1991		51,630	19,085	5,471	7,468	579	2,983	1,238	1,231	115	29,330	28,634	523	172	1,458	1,132	559	573	625	
1992		49,526	17,872	5,662	5,844	662	3,153	1,228	1,219	106	28,377	27,656	541	180	1,462	1,189	596	593	625	
1993		47,621	17,977	6,180	5,486	556	3,247	1,229	1,149	131	26,245	25,490	566	189	1,508	1,257	635	623	633	
1994		45,806	17,263	6,236	4,523	629	3,307	1,228	1,200	139	25,012	24,233	581	198	1,571	1,313	677	636	647	
1995		50,163	16,596	6,069	3,877	656	3,405	1,287	1,144	158	29,922	29,109	605	208	1,607	1,353	721	632	685	
1996		51,912	16,784	5,859	4,377	278	3,444	1,527	1,154	147	31,356	30,507	630	218	1,672	1,398	770	628	702	
1997		55,011	15,225	5,904	3,129	252	3,013	1,580	1,195	152	36,047	35,192	613	242	1,641	1,445	840	605	653	

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1998		54,171	14,982	6,012	3,075	269	2,640	1,603	1,238	144	35,420	34,558	608	254	1,610	1,545	945	599	615
1999		59,887	16,074	6,368	3,244	316	3,064	1,436	1,497	149	39,841	38,945	624	272	1,685	1,659	1,026	633	629
2000		63,885	17,541	6,881	3,023	303	3,600	1,456	2,064	214	42,047	41,133	623	291	1,786	1,867	1,201	666	644
2001		70,735	20,752	7,773	3,971	905	3,917	1,548	2,370	268	45,432	44,539	606	287	1,887	2,002	1,299	703	662
2002		55,096	20,912	8,121	2,660	1,183	4,399	1,804	2,458	288	29,155	28,289	592	274	2,072	2,247	1,477	769	710
2003		65,203	23,959	8,149	4,752	1,501	4,950	1,700	2,642	264	35,770	34,908	587	275	2,229	2,471	1,663	808	774
2004		71,775	23,469	7,702	4,934	1,508	5,065	1,531	2,529	201	42,861	42,007	581	273	2,229	2,433	1,624	809	784
2005		70,001	23,639	7,557	5,289	1,414	5,032	1,637	2,432	278	40,850	39,995	575	280	2,247	2,523	1,723	799	743
2006		74,333	24,338	7,202	5,948	1,272	5,151	1,770	2,511	484	44,488	43,623	574	290	2,258	2,537	1,746	791	713
2007		78,653	26,270	6,798	8,421	1,100	5,223	1,275	2,431	1,021	46,666	45,775	591	300	2,284	2,709	1,884	825	725
2008		68,881	23,565	6,738	4,970	1,819	5,658	787	2,395	1,198	39,136	38,189	643	304	2,438	2,966	2,060	906	776
2009		66,549	28,425	7,189	7,119	1,835	7,038	1,170	2,784	1,291	31,365	30,364	710	291	2,650	3,261	2,232	1,029	847
2010		71,650	27,344	7,222	4,239	2,026	8,476	1,148	2,740	1,494	37,236	36,220	727	289	2,798	3,397	2,293	1,103	876
2011		72,712	26,667	6,924	3,885	1,990	8,884	1,163	2,374	1,447	38,775	37,740	737	298	2,997	3,414	2,288	1,126	859
2012 (preliminary)		75,202	27,197	7,006	4,425	2,068	8,794	1,201	2,325	1,377	40,618	39,562	749	307	3,119	3,423	2,286	1,137	845

NA = not available; included in data for federal support to industry and federal support to other nonprofit institutions.

FFRDC = federally funded R&D center; U&C = universities and colleges.

<sup>a</sup> Due to survey limitations, data on R&D funded by other (nonfederal) government are separately available only for U&C; nonetheless, other government funded R&D is included in the own performance of these other sectors (e.g., other government funding to other nonprofits is included in other nonprofit funding for their own R&D).

<sup>b</sup> Character-of-work estimates for industry were revised in 1998 and for later years; hence, the data for 1997 and earlier years are not directly comparable.

<sup>c</sup> Character-of-work estimates for industry-administered FFRDCs in 1953–63 are not separate from the federal funding to industry; the data on federal funding to industry in those years include the funding to these FFRDCs.

<sup>d</sup> The data for U&C R&D before 2003 covers only science and engineering (S&E) fields; in 2003 and later years, the R&D in non-S&E fields is also included. Adjustments have been made to U&C R&D for 1998 and later years to eliminate the double counting of funds passed through from one academic institution to another. The character-of-work estimation procedure for academic R&D was revised in 1998 and again in 2010; hence, these data are not directly comparable with data reported for earlier years.

<sup>e</sup> Character-of-work estimates for nonprofit-administered FFRDCs in 1953–80 are not separate from federal funding for other nonprofit institutions; thus, the data for federal funding to other nonprofit institutions includes the funding to these FFRDCs in those years.

<sup>f</sup> Industry sources of funding for industry R&D include all nonfederal sources of funding.

<sup>g</sup> The 1998–2012 data for other nonprofit R&D are not based on a dedicated nonprofit survey and may later be revised.

NOTES: The R&D data for 2012 are preliminary and may later be revised. Some back-year data may have been revised, accordingly, for trend comparisons, use only the historical data reported here; do not use data published earlier. Detail may not add to total due to rounding. Constant-dollar estimates are derived from unrounded data. Data are based on annual reports by performers, except for the nonprofit sector. The R&D expenditures of FFRDCs are chiefly from federal funding, but any nonfederal funds are included in the totals. Expenditures for industry and, before 2001, for industry-administered FFRDCs are collected by calendar year. Expenditures for other performers are calendar-year approximations based on fiscal year data. In most cases, the approximation equals 75% of the amount reported in the same fiscal year plus 25% of the amount reported in the subsequent fiscal year. However, the fiscal year for academic performers generally begins 1 July, not 1 October; also, prior to 1977, the federal fiscal year began on 1 July, not 1 October. Therefore, calendar-year approximations for academic performers and federal performers before 1977 equal 50% of the amount reported in the same fiscal year plus 50% of amount reported in the subsequent fiscal year. Los Alamos National Laboratory became industry administered in June 2006—previously, it was U&C administered. Lawrence Livermore National Laboratory became industry administered in October 2007—previously, it was U&C administered.

SOURCES: National Science Foundation, National Center for Science and Engineering Statistics (NSF/NCSES), National Patterns of R&D Resources (annual series), Business R&D and Innovation Survey (annual series), Higher Education R&D Survey (annual series), Survey of Federal Funds for R&D (annual series), FFRDC R&D Survey (annual series), R&D Funding and Performance by Nonprofit Organizations (FYs 1996–97). All NSF/NCSES reports available at <http://www.nsf.gov/statistics/>.