

TABLE 5

U.S. development expenditures, by performing sector and source of funds: 1953–2019

(Millions of current and of constant 2012 dollars)

Year	All performers	All federal	Federal intramural <sup>a</sup>	FFRDCs <sup>b</sup>		Nonfederal government <sup>c</sup>	Business <sup>d</sup>						Higher education <sup>e</sup>				NPOs <sup>f</sup>					
	All funding sources	Total	Federal	Total	Federal	Total	Total	Own domestic	Federal	Other domestic business	Foreign business	Other	Total	Federal	Nonfederal government	Business	Higher education	NPO	Total	Federal	Business	NPO
Current \$millions																						
1953	3,412	614	567	48	48	NA	2,753	1,630	1,123	NA	NA	NA	16	9	3	1	3	1	29	17	6	6
1954	3,734	599	537	62	62	NA	3,090	1,685	1,405	NA	NA	NA	17	9	3	1	3	1	29	15	7	7
1955	4,113	713	543	171	171	NA	3,352	1,738	1,614	NA	NA	NA	21	12	4	2	3	1	27	12	8	7
1956	5,854	978	631	348	348	NA	4,826	2,267	2,559	NA	NA	NA	25	14	4	2	4	2	26	11	8	7
1957	6,681	1,157	728	429	429	NA	5,474	2,174	3,300	NA	NA	NA	26	12	5	3	4	2	25	9	8	8
1958	7,213	1,227	842	386	386	NA	5,932	2,241	3,691	NA	NA	NA	28	13	6	3	4	2	26	9	8	9
1959	8,463	1,417	940	477	477	NA	6,983	2,557	4,426	NA	NA	NA	31	16	6	3	5	2	33	14	9	10
1960	9,360	1,562	1,003	559	559	NA	7,734	2,935	4,799	NA	NA	NA	35	19	6	3	5	2	30	10	10	10
1961	9,930	1,760	1,090	670	670	NA	8,106	3,189	4,917	NA	NA	NA	37	22	7	2	5	2	28	4	10	14
1962	10,114	1,845	1,227	618	618	NA	8,196	3,246	4,950	NA	NA	NA	40	23	8	2	6	2	34	5	11	18
1963	11,539	2,133	1,465	668	668	NA	9,330	3,535	5,795	NA	NA	NA	40	22	8	2	6	2	37	6	11	20
1964	12,506	2,419	1,680	739	739	NA	10,004	3,848	6,156	NA	NA	NA	49	30	8	2	7	3	35	6	11	18
1965	13,215	2,463	1,789	674	674	NA	10,637	4,419	6,218	NA	NA	NA	71	48	9	2	8	4	45	13	12	20
1966	14,490	2,540	1,886	654	654	NA	11,810	4,961	6,849	NA	NA	NA	87	61	9	2	10	5	53	16	14	23
1967	15,332	2,649	1,943	706	706	NA	12,539	5,744	6,795	NA	NA	NA	93	66	9	3	10	7	51	12	15	24
1968	16,154	2,628	1,904	724	724	NA	13,370	6,326	7,044	NA	NA	NA	102	72	8	4	9	9	55	13	16	26
1969	17,051	2,807	2,016	792	792	NA	14,071	7,127	6,944	NA	NA	NA	110	80	7	5	8	10	63	17	18	28
1970	16,925	3,047	2,258	790	790	NA	13,698	7,466	6,232	NA	NA	NA	112	84	6	5	7	10	68	20	18	30
1971	17,399	3,313	2,473	841	841	NA	13,924	7,757	6,167	NA	NA	NA	98	69	8	4	9	9	64	12	19	33
1972	18,743	3,502	2,639	863	863	NA	15,043	8,510	6,533	NA	NA	NA	101	63	12	4	14	9	98	44	19	35
1973	20,197	3,517	2,657	860	860	NA	16,394	9,773	6,621	NA	NA	NA	126	71	18	5	20	13	160	102	20	38
1974	21,504	3,748	2,765	983	983	NA	17,421	10,868	6,553	NA	NA	NA	141	75	20	7	25	15	195	131	22	42
1975	22,706	3,993	2,890	1,103	1,103	NA	18,352	11,569	6,783	NA	NA	NA	156	83	22	8	27	16	205	135	23	47
1976	25,085	4,286	2,972	1,315	1,315	NA	20,412	12,890	7,522	NA	NA	NA	182	100	24	12	31	16	205	128	25	52
1977	27,667	4,606	3,188	1,418	1,418	NA	22,603	14,328	8,275	NA	NA	NA	254	153	28	15	40	19	204	119	27	58
1978	31,056	5,261	3,676	1,584	1,584	NA	25,216	16,460	8,756	NA	NA	NA	373	254	32	15	49	24	207	113	30	64
1979	35,445	5,697	3,944	1,753	1,753	NA	29,033	19,145	9,888	NA	NA	NA	469	336	34	16	56	28	246	143	32	71
1980	40,748	6,081	4,072	2,009	2,009	NA	33,848	22,891	10,957	NA	NA	NA	518	362	38	19	68	31	301	187	35	79
1981	46,305	6,705	4,530	2,175	2,175	NA	38,547	25,756	12,791	NA	NA	NA	568	386	44	24	80	35	485	360	37	88
1982	51,879	7,348	5,178	2,170	2,170	NA	43,434	29,219	14,215	NA	NA	NA	597	397	46	27	88	39	500	362	40	98
1983	57,771	8,491	6,106	2,385	2,385	NA	48,064	32,542	15,522	NA	NA	NA	617	399	47	31	97	43	599	447	44	109
1984	66,461	9,651	7,078	2,572	2,572	NA	55,371	37,731	17,640	NA	NA	NA	677	435	51	37	108	47	762	594	47	120
1985	74,522	10,916	8,011	2,906	2,906	NA	62,020	41,762	20,258	NA	NA	NA	756	486	57	43	120	49	829	644	51	134

TABLE 5

## U.S. development expenditures, by performing sector and source of funds: 1953–2019

(Millions of current and of constant 2012 dollars)

Year	All performers	All federal	Federal intramural <sup>a</sup>	FFRDCs <sup>b</sup>		Nonfederal government <sup>c</sup>	Business <sup>d</sup>						Higher education <sup>e</sup>				NPOs <sup>f</sup>					
	All funding sources	Total	Federal	Total	Federal	Total	Total	Own domestic	Federal	Other domestic business	Foreign business	Other	Total	Federal	Nonfederal government	Business	Higher education	NPO	Total	Federal	Business	NPO
1986	75,855	11,376	8,275	3,101	3,101	NA	62,871	41,354	21,517	NA	NA	NA	818	513	65	50	136	53	790	587	55	149
1987	79,929	11,496	8,176	3,321	3,321	NA	66,789	42,667	24,122	NA	NA	NA	945	599	73	57	155	61	698	474	60	165
1988	84,567	12,460	8,864	3,596	3,596	NA	70,353	46,634	23,719	NA	NA	NA	1,098	698	83	66	180	71	655	407	65	183
1989	87,723	12,991	9,355	3,635	3,635	NA	72,725	51,676	21,049	NA	NA	NA	1,227	773	91	76	205	81	780	507	70	203
1990	94,067	13,363	9,700	3,663	3,663	NA	78,376	59,410	18,966	NA	NA	NA	1,407	910	99	83	226	89	920	619	75	226
1991	95,105	12,230	8,778	3,452	3,452	NA	80,286	63,030	17,256	NA	NA	NA	1,534	1,012	103	86	239	94	1,054	722	82	251
1992	99,811	12,521	9,098	3,423	3,423	NA	84,569	67,388	17,181	NA	NA	NA	1,596	1,055	105	91	246	100	1,125	758	88	279
1993	99,705	12,058	9,071	2,986	2,986	NA	84,757	68,674	16,083	NA	NA	NA	1,700	1,127	109	97	259	107	1,191	787	95	309
1994	102,938	11,970	8,823	3,147	3,147	NA	87,890	71,681	16,209	NA	NA	NA	1,816	1,213	114	102	276	112	1,261	815	103	343
1995	113,079	12,689	9,262	3,427	3,427	NA	97,342	79,518	17,824	NA	NA	NA	1,812	1,180	123	108	288	113	1,236	744	111	381
1996	121,377	12,481	9,033	3,448	3,448	NA	105,863	88,797	17,066	NA	NA	NA	1,791	1,128	128	115	305	115	1,241	698	120	423
1997	128,661	12,407	9,077	3,331	3,331	NA	113,184	95,063	18,121	NA	NA	NA	1,693	1,041	120	113	306	112	1,378	687	155	536
1998	144,669	12,528	9,214	3,314	3,314	NA	129,041	110,589	18,452	NA	NA	NA	1,584	943	113	112	306	110	1,516	760	164	592
1999	154,315	12,600	9,265	3,335	3,335	NA	138,807	122,236	16,571	NA	NA	NA	1,362	686	117	116	325	118	1,546	727	178	641
2000	169,414	12,859	9,377	3,482	3,482	NA	153,745	140,235	13,510	NA	NA	NA	1,265	545	123	119	352	127	1,545	580	195	771
2001	167,740	14,459	11,062	3,397	3,273	NA	149,952	137,410	12,542	NA	NA	NA	1,409	646	128	117	381	136	1,921	874	197	850
2002	176,601	15,238	11,800	3,438	3,308	NA	157,788	144,727	13,061	NA	NA	NA	1,472	639	140	116	425	151	2,104	937	191	976
2003	175,483	16,563	12,646	3,917	3,785	NA	155,060	143,121	11,939	NA	NA	NA	1,799	897	155	118	467	162	2,060	743	195	1,122
2004	177,220	17,424	12,746	4,677	4,561	NA	155,034	140,615	14,419	NA	NA	NA	2,140	1,211	161	120	481	167	2,623	1,300	199	1,123
2005	195,731	18,775	13,994	4,781	4,654	NA	172,208	156,696	15,512	NA	NA	NA	2,098	1,146	158	122	501	170	2,651	1,211	212	1,228
2006	212,719	20,582	16,089	4,493	4,358	7	188,112	171,392	16,720	NA	NA	NA	1,902	927	156	126	520	173	2,116	603	226	1,287
2007	227,968	23,381	18,016	5,365	5,254	9	200,429	185,569	14,860	NA	NA	NA	1,917	894	163	133	540	186	2,231	568	240	1,423
2008	259,596	23,760	17,566	6,194	6,094	11	231,447	180,724	29,488	8,882	11,799	553	1,965	841	179	148	589	209	2,412	562	250	1,600
2009	255,933	23,497	17,245	6,252	6,159	14	226,554	179,841	30,435	7,041	8,732	505	3,338	1,527	282	280	888	361	2,531	550	241	1,740
2010	251,200	25,847	18,844	7,004	6,909	16	217,700	170,036	28,089	8,035	10,778	762	4,903	2,422	396	407	1,180	498	2,734	638	242	1,854
2011	270,776	28,751	21,879	6,872	6,786	16	233,886	187,794	26,228	7,966	11,266	632	5,180	2,579	391	415	1,275	521	2,943	790	256	1,896
2012	273,056	26,666	19,941	6,725	6,631	15	238,202	192,828	25,840	7,578	11,543	413	5,449	2,605	367	444	1,455	579	2,723	518	263	1,942
2013	286,982	26,436	19,767	6,668	6,572	14	252,007	207,537	22,137	8,729	12,946	658	5,656	2,570	385	482	1,599	620	2,869	474	280	2,115
2014	301,433	27,084	20,303	6,781	6,681	13	265,377	223,186	18,065	8,312	15,103	711	5,908	2,542	399	537	1,735	696	3,051	471	296	2,284
2015	312,980	26,132	18,961	7,171	7,062	14	277,557	230,629	18,850	10,295	16,907	876	6,110	2,518	401	555	1,858	779	3,168	422	307	2,439
2016	324,889	23,439	15,838	7,601	7,479	18	291,603	243,055	16,790	9,940	20,929	889	6,390	2,574	420	562	1,968	867	3,439	450	327	2,662
2017	350,784	23,995	15,848	8,147	8,021	22	316,135	258,151	17,736	11,792	27,804	652	6,760	2,666	448	607	2,105	934	3,873	632	346	2,895
2018	388,642	27,556	18,856	8,701	8,567	23	349,820	285,903	17,304	13,747	32,032	833	7,016	2,790	486	626	2,199	916	4,228	767	374	3,086
2019 <sup>g</sup>	423,352	30,588	21,496	9,092	8,958	23	381,119	309,316	19,180	15,954	35,705	963	7,338	2,923	516	650	2,313	935	4,284	612	401	3,271

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(Millions of current and of constant 2012 dollars)

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	All funding sources	Total	Federal	Total	Federal	Total	Total	Own domestic	Federal	Other domestic business	Foreign business	Other	Total	Federal	Nonfederal government	Business	Higher education	NPO	Total	Federal	Business	NPO
Constant 2012 \$millions																						
1953	23,628	4,253	3,924	329	329	NA	19,067	11,289	7,778	NA	NA	NA	111	59	20	7	18	7	197	114	42	42
1954	25,626	4,108	3,685	422	422	NA	21,207	11,564	9,643	NA	NA	NA	117	58	24	7	21	7	196	100	48	48
1955	27,756	4,811	3,661	1,151	1,151	NA	22,621	11,728	10,893	NA	NA	NA	142	78	26	10	22	7	182	81	54	47
1956	38,200	6,382	4,114	2,267	2,267	NA	31,489	14,793	16,696	NA	NA	NA	163	88	29	13	23	10	166	69	52	46
1957	42,204	7,305	4,595	2,710	2,710	NA	34,580	13,732	20,847	NA	NA	NA	164	76	33	16	27	13	155	54	51	51
1958	44,549	7,578	5,197	2,381	2,381	NA	36,640	13,841	22,799	NA	NA	NA	170	77	35	19	27	12	161	56	49	56
1959	51,555	8,629	5,726	2,903	2,903	NA	42,539	15,577	26,962	NA	NA	NA	189	94	36	18	28	12	198	82	55	61
1960	56,257	9,385	6,025	3,360	3,360	NA	46,484	17,640	28,844	NA	NA	NA	207	114	38	15	28	12	180	60	60	60
1961	59,056	10,464	6,479	3,985	3,985	NA	48,205	18,966	29,240	NA	NA	NA	223	128	41	12	30	12	164	21	59	83
1962	59,428	10,841	7,210	3,631	3,631	NA	48,156	19,073	29,083	NA	NA	NA	235	132	45	12	34	12	197	26	65	106
1963	67,026	12,389	8,509	3,880	3,880	NA	54,192	20,533	33,660	NA	NA	NA	232	128	46	12	35	12	212	32	64	116
1964	71,552	13,840	9,612	4,228	4,228	NA	57,237	22,016	35,221	NA	NA	NA	277	169	45	11	37	14	197	31	63	103
1965	74,252	13,836	10,049	3,787	3,787	NA	59,767	24,829	34,937	NA	NA	NA	396	270	49	11	44	22	253	73	67	112
1966	79,197	13,880	10,309	3,572	3,572	NA	64,551	27,116	37,435	NA	NA	NA	476	333	51	11	53	27	290	87	77	126
1967	81,432	14,067	10,320	3,747	3,747	NA	66,600	30,509	36,091	NA	NA	NA	494	348	45	13	53	35	271	64	80	127
1968	82,292	13,386	9,700	3,686	3,686	NA	68,112	32,227	35,885	NA	NA	NA	517	364	39	20	47	46	278	64	82	132
1969	82,809	13,634	9,790	3,844	3,844	NA	68,338	34,613	33,724	NA	NA	NA	532	386	34	24	39	49	306	83	87	136
1970	78,077	14,058	10,416	3,642	3,642	NA	63,191	34,442	28,749	NA	NA	NA	517	385	30	23	32	46	311	90	83	138
1971	76,386	14,546	10,855	3,690	3,690	NA	61,131	34,056	27,075	NA	NA	NA	430	303	34	18	38	37	279	50	83	145
1972	78,884	14,738	11,108	3,630	3,630	NA	63,311	35,816	27,495	NA	NA	NA	425	263	52	15	57	38	410	183	80	147
1973	80,583	14,033	10,602	3,431	3,431	NA	65,410	38,993	26,417	NA	NA	NA	501	281	70	20	80	50	638	407	80	152
1974	78,721	13,720	10,123	3,597	3,597	NA	63,773	39,784	23,989	NA	NA	NA	514	273	73	24	90	55	713	480	79	155
1975	76,069	13,377	9,682	3,695	3,695	NA	61,483	38,759	22,725	NA	NA	NA	523	276	74	27	92	54	686	451	78	157
1976	79,658	13,611	9,437	4,174	4,174	NA	64,819	40,932	23,886	NA	NA	NA	578	316	76	37	99	51	651	405	80	165
1977	82,719	13,771	9,531	4,240	4,240	NA	67,578	42,837	24,740	NA	NA	NA	759	457	83	43	120	55	610	356	82	173
1978	86,747	14,694	10,269	4,426	4,426	NA	70,435	45,977	24,458	NA	NA	NA	1,041	709	89	41	137	66	577	315	83	179
1979	91,425	14,693	10,172	4,521	4,521	NA	74,885	49,381	25,504	NA	NA	NA	1,211	868	88	40	144	71	635	369	83	184
1980	96,393	14,386	9,634	4,752	4,752	NA	80,070	54,151	25,920	NA	NA	NA	1,225	856	90	46	160	73	711	442	82	187
1981	100,071	14,491	9,791	4,701	4,701	NA	83,305	55,662	27,643	NA	NA	NA	1,227	834	95	51	172	75	1,048	777	81	190
1982	105,592	14,956	10,539	4,417	4,417	NA	88,403	59,471	28,932	NA	NA	NA	1,215	809	93	54	180	79	1,018	737	82	199
1983	113,153	16,630	11,959	4,671	4,671	NA	94,140	63,738	30,402	NA	NA	NA	1,209	782	92	61	191	83	1,174	876	86	213
1984	125,640	18,244	13,381	4,863	4,863	NA	104,675	71,328	33,347	NA	NA	NA	1,281	822	97	70	204	88	1,441	1,124	89	228
1985	136,559	20,004	14,679	5,325	5,325	NA	113,650	76,528	37,122	NA	NA	NA	1,386	891	105	80	220	90	1,519	1,180	94	245

TABLE 5

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	All funding sources	Total	Federal	Total	Federal	Total	Total	Own domestic	Federal	Other domestic business	Foreign business	Other	Total	Federal	Nonfederal government	Business	Higher education	NPO	Total	Federal	Business	NPO
1986	136,260	20,435	14,864	5,571	5,571	NA	112,936	74,285	38,651	NA	NA	NA	1,469	922	117	90	245	95	1,420	1,054	99	267
1987	140,112	20,153	14,331	5,821	5,821	NA	117,079	74,794	42,285	NA	NA	NA	1,656	1,049	128	100	272	106	1,224	830	105	289
1988	143,192	21,098	15,009	6,089	6,089	NA	119,125	78,963	40,162	NA	NA	NA	1,859	1,182	140	112	304	121	1,109	690	109	310
1989	142,931	21,166	15,243	5,923	5,923	NA	118,494	84,198	34,296	NA	NA	NA	1,999	1,260	149	124	334	132	1,271	826	114	332
1990	147,740	20,988	15,235	5,753	5,753	NA	123,095	93,308	29,788	NA	NA	NA	2,210	1,429	156	130	355	139	1,446	972	118	355
1991	144,483	18,580	13,335	5,245	5,245	NA	121,971	95,755	26,215	NA	NA	NA	2,330	1,537	156	131	364	143	1,602	1,097	124	381
1992	148,253	18,598	13,513	5,084	5,084	NA	125,614	100,094	25,520	NA	NA	NA	2,371	1,567	156	135	365	148	1,671	1,126	131	414
1993	144,668	17,495	13,162	4,333	4,333	NA	122,978	99,643	23,336	NA	NA	NA	2,466	1,636	158	141	376	155	1,728	1,141	138	449
1994	146,236	17,005	12,535	4,471	4,471	NA	124,859	101,832	23,027	NA	NA	NA	2,580	1,724	161	145	392	159	1,792	1,158	146	488
1995	157,344	17,656	12,888	4,769	4,769	NA	135,447	110,646	24,801	NA	NA	NA	2,521	1,641	171	151	401	158	1,720	1,035	155	531
1996	165,854	17,055	12,343	4,712	4,712	NA	144,655	121,336	23,320	NA	NA	NA	2,448	1,542	175	157	417	157	1,696	953	164	579
1997	172,825	16,666	12,192	4,474	4,474	NA	152,035	127,694	24,341	NA	NA	NA	2,274	1,399	162	152	411	150	1,851	922	208	721
1998	192,167	16,642	12,239	4,402	4,402	NA	171,408	146,898	24,510	NA	NA	NA	2,104	1,253	150	148	406	146	2,014	1,010	218	786
1999	202,061	16,498	12,132	4,367	4,367	NA	181,755	160,057	21,698	NA	NA	NA	1,784	899	153	152	425	154	2,024	952	233	839
2000	216,983	16,469	12,009	4,460	4,460	NA	196,914	179,611	17,303	NA	NA	NA	1,620	698	157	152	451	162	1,979	742	250	987
2001	210,228	18,121	13,864	4,257	4,102	NA	187,934	172,215	15,719	NA	NA	NA	1,765	810	161	147	477	171	2,407	1,095	247	1,065
2002	217,887	18,800	14,558	4,242	4,081	NA	194,676	178,561	16,114	NA	NA	NA	1,816	789	172	144	525	187	2,595	1,155	236	1,204
2003	212,559	20,062	15,318	4,744	4,585	NA	187,821	173,360	14,461	NA	NA	NA	2,180	1,087	188	143	566	196	2,496	900	236	1,359
2004	209,036	20,552	15,035	5,517	5,380	NA	182,867	165,859	17,008	NA	NA	NA	2,524	1,429	190	141	567	196	3,094	1,534	235	1,325
2005	223,896	21,477	16,008	5,469	5,323	NA	196,988	179,244	17,744	NA	NA	NA	2,399	1,311	181	140	573	194	3,032	1,385	242	1,405
2006	236,181	22,852	17,864	4,988	4,838	8	208,860	190,296	18,564	NA	NA	NA	2,112	1,029	174	140	577	192	2,349	669	251	1,429
2007	246,488	25,281	19,480	5,801	5,681	10	216,712	200,645	16,067	NA	NA	NA	2,073	967	177	144	584	201	2,412	614	260	1,539
2008	275,333	25,201	18,631	6,570	6,464	12	245,477	191,680	31,276	9,421	12,515	587	2,085	892	190	157	624	221	2,558	596	265	1,697
2009	269,394	24,733	18,152	6,581	6,483	15	238,469	189,299	32,036	7,411	9,192	531	3,513	1,608	296	295	934	380	2,664	579	253	1,832
2010	261,365	26,893	19,606	7,287	7,188	17	226,510	176,917	29,226	8,360	11,214	793	5,101	2,520	412	423	1,228	518	2,845	663	252	1,929
2011	275,969	29,302	22,299	7,004	6,916	16	238,372	191,396	26,731	8,119	11,482	644	5,279	2,628	398	423	1,299	531	2,999	806	261	1,933
2012	273,056	26,666	19,941	6,725	6,631	15	238,202	192,828	25,840	7,578	11,543	413	5,449	2,605	367	444	1,455	579	2,723	518	263	1,942
2013	282,032	25,980	19,426	6,553	6,459	14	247,660	203,957	21,755	8,579	12,723	647	5,558	2,526	378	474	1,571	609	2,820	466	275	2,079
2014	290,852	26,133	19,590	6,543	6,446	13	256,061	215,351	17,431	8,020	14,572	686	5,701	2,453	385	518	1,674	671	2,944	455	286	2,204
2015	299,147	24,977	18,123	6,854	6,750	13	265,289	220,436	18,017	9,840	16,160	837	5,839	2,407	383	530	1,776	744	3,028	403	294	2,331
2016	307,304	22,170	14,981	7,189	7,074	17	275,820	229,900	15,881	9,402	19,797	841	6,044	2,435	397	531	1,861	820	3,253	425	309	2,518
2017	325,675	22,278	14,714	7,564	7,447	20	293,506	239,672	16,466	10,948	25,814	606	6,276	2,475	416	564	1,954	867	3,596	587	321	2,688
2018	352,362	24,984	17,095	7,888	7,767	21	317,165	259,214	15,689	12,464	29,042	756	6,361	2,529	441	568	1,993	830	3,833	695	340	2,798
2019 <sup>g</sup>	377,102	27,246	19,147	8,099	7,979	20	339,483	275,524	17,084	14,211	31,805	858	6,537	2,604	460	579	2,060	833	3,816	545	357	2,913

NA = not available.

FFRDC = federally funded research and development center; NPO = nonprofit organization.

<sup>a</sup> See table 2, footnote a.

<sup>b</sup> Type-of-R&D data for FFRDC R&D in 1953–63 reflect the R&D performance of only university-administered FFRDCs. In 1953–63, the R&D performance and funding of industry-administered FFRDCs were not separately reported but are included instead in the business R&D data for these years. Similarly, in 1953–63, the R&D performance and funding for nonprofit-administered FFRDCs were not separately reported but are included instead in the NPO R&D data for these years. The data for 1964–80 reflect the R&D performance of only university-administered FFRDCs and industry-administered FFRDCs; the R&D performance for nonprofit-administered FFRDCs is included in the NPO R&D data for these years. Starting in 2001, type-of-R&D data provide detail on federal and nonfederal sources of funding for FFRDC R&D. (See also footnote b in table 2.)

<sup>c</sup> Type-of-R&D data for state intramural R&D became available in the 2016 Survey of State Government Research and Development. These data prior to 2016 are estimated. (See also table 2, footnote c.)

<sup>d</sup> Type-of-R&D data for business R&D in 1998–2007 were revised in response to data quality review considerations and are not directly comparable with the data for 1997 and earlier years. For 2008 and later years, the type-of-R&D splits for other than total, own-funded, and federally funded R&D are estimated. (See also table 2, footnote d.)

<sup>e</sup> The type-of-R&D estimation procedure for higher education R&D was revised in 1998 and again in 2010; hence, these data are not directly comparable with data reported for earlier years. The pass-through adjusted data on higher education R&D, applied 1998 and forward, reflect institution-specific detail on the type of R&D performed. Type-of-R&D splits for other than total and federally funded are estimated. (See also table 2, footnote e.)

<sup>f</sup> Type-of-R&D data for R&D by NPOs in 1998 and later years are estimated, except for the R&D that is federally funded. (See also table 2, footnote f.)

<sup>g</sup> The data for 2019 are estimates and will later be revised.

**Note(s):**

Detail may not add to total because of rounding. Constant-dollar estimates are derived from unrounded data. For trend comparisons, use only the historical data reported in this table because some back-year data may have been revised. Except for the nonprofit sector, data are based on annual reports by performers in the National Center for Science and Engineering Statistics' annual R&D expenditure surveys: Business Research and Development Survey, Higher Education Research and Development Survey, Survey of Federal Funds for Research and Development, FFRDC Research and Development Expenditures Survey, and Survey of State Government Research and Development. R&D expenditures by business performers—and, before 2001, also industry-administered FFRDCs—are collected on a calendar year basis. Expenditures for other performers are calendar year approximations based on fiscal year data. For federal performers from 1977 and after, the approximation equals 75% of the amount reported in the same fiscal year plus 25% of the amount reported in the subsequent fiscal year. Prior to 1977, the federal fiscal year began on 1 July, not 1 October, and the approximation is 50% of the amount reported in the same fiscal year plus 50% of the amount reported in the subsequent fiscal year. The fiscal year for higher education performers and state government performers generally begins 1 July, and the calendar year approximation is 50% of the amount reported in the same fiscal year plus 50% of amount reported in the subsequent fiscal year.

**Source(s):**

National Center for Science and Engineering Statistics, National Patterns of R&D Resources (annual series).