



APPENDIX TABLE 4-5

U.S. development expenditures, by performing sector and source of funds: 1953–2015

(Millions of current and of constant 2009 dollars)

Year	All per-formers	All federal	Federal intramural <sup>a</sup>	FFRDCs <sup>b</sup>		Nonfederal govern-ment <sup>c</sup>	Business <sup>d</sup>						Higher education <sup>e</sup>				Other nonprofit organizations <sup>f</sup>					
	All funding sources	Total	Federal	Total	Federal	Total	Total	Own domestic	Federal	Other domestic business	Foreign business	Other	Total	Federal	Nonfederal govern-ment	Busi-ness	Higher ed-ucation	ONP	Total	Federal	Busi-ness	ONP
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	38	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



Year	All per-formers	All federal	Federal intramural <sup>a</sup>	FFRDCs <sup>b</sup>		Nonfederal govern-ment <sup>c</sup>	Business <sup>d</sup>						Higher education <sup>e</sup>				Other nonprofit organizations <sup>f</sup>					
	All funding sources	Total	Federal	Total	Federal	Total	Total	Own domestic	Federal	Other domestic business	Foreign business	Other	Total	Federal	Nonfederal govern-ment	Busi-ness	Higher ed-ucation	ONP	Total	Federal	Busi-ness	ONP
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



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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 govern-ment	Busi-ness	Higher ed-ucation	ONP	Total	Federal	Busi-ness	ONP
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
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



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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 govern-ment	Busi-ness	Higher ed-ucation	ONP	Total	Federal	Busi-ness	ONP
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	227,967	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	259,595	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	2,411	562	249	1,600
2009	256,036	23,497	17,245	6,252	6,159	13	226,554	179,841	30,435	7,041	8,732	505	3,441	1,569	288	289	915	381	2,531	550	241	1,740
2010	251,415	25,847	18,844	7,004	6,909	15	217,700	170,036	28,089	8,035	10,778	762	5,122	2,509	408	425	1,240	541	2,730	638	242	1,850
2011	270,995	28,751	21,879	6,872	6,786	15	233,886	187,794	26,228	7,966	11,266	632	5,410	2,666	402	436	1,340	567	2,933	790	255	1,887
2012	273,264	26,666	19,941	6,725	6,631	15	238,202	192,828	25,840	7,578	11,543	413	5,677	2,687	378	464	1,524	625	2,704	518	261	1,925
2013	287,144	26,436	19,767	6,668	6,572	14	252,007	207,537	22,137	8,729	12,946	658	5,877	2,650	393	502	1,670	663	2,811	474	276	2,061
2014	301,475	27,084	20,303	6,781	6,681	13	265,377	223,186	18,065	8,312	15,103	711	6,055	2,602	402	548	1,782	721	2,947	471	291	2,185
2015 <sup>g</sup>	314,532	27,718	20,547	7,171	7,062	14	277,557	230,629	18,850	10,295	16,907	876	6,204	2,565	404	560	1,888	789	3,040	447	301	2,292
Constant 2009 \$millions																						
1953	22,510	4,051	3,738	313	313	NA	18,165	10,755	7,410	NA	NA	NA	106	56	19	7	17	7	188	109	40	40
1954	24,412	3,913	3,511	402	402	NA	20,202	11,016	9,185	NA	NA	NA	111	56	23	7	20	7	186	95	46	46
1955	26,435	4,582	3,486	1,096	1,096	NA	21,544	11,169	10,375	NA	NA	NA	135	74	24	10	21	6	174	77	51	45
1956	36,384	6,078	3,919	2,160	2,160	NA	29,992	14,090	15,903	NA	NA	NA	155	84	27	12	22	9	158	65	50	44



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1957	40,185	6,956	4,376	2,580	2,580	NA	32,926	13,076	19,850	NA	NA	NA	156	72	32	15	25	12	147	51	48	48
1958	42,429	7,218	4,950	2,268	2,268	NA	34,897	13,182	21,715	NA	NA	NA	162	74	33	18	26	12	153	53	47	53
1959	49,092	8,217	5,453	2,764	2,764	NA	40,507	14,833	25,674	NA	NA	NA	180	90	35	17	26	12	189	78	52	58
1960	53,557	8,935	5,736	3,199	3,199	NA	44,253	16,794	27,460	NA	NA	NA	197	109	36	14	27	11	172	57	57	57
1961	56,201	9,958	6,166	3,792	3,792	NA	45,875	18,049	27,826	NA	NA	NA	212	122	39	11	29	11	156	20	57	79
1962	56,548	10,315	6,860	3,455	3,455	NA	45,821	18,148	27,673	NA	NA	NA	224	126	43	11	32	11	187	25	62	101
1963	63,794	11,792	8,099	3,693	3,693	NA	51,579	19,543	32,036	NA	NA	NA	221	122	44	11	34	11	202	30	61	111
1964	68,092	13,171	9,147	4,024	4,024	NA	54,469	20,951	33,518	NA	NA	NA	264	161	43	11	36	14	188	30	60	98
1965	70,663	13,167	9,563	3,604	3,604	NA	56,878	23,629	33,249	NA	NA	NA	377	257	46	11	42	21	241	70	64	107
1966	75,361	13,208	9,809	3,399	3,399	NA	61,425	25,803	35,622	NA	NA	NA	452	317	49	10	50	26	276	83	73	120
1967	77,488	13,386	9,820	3,566	3,566	NA	63,375	29,031	34,343	NA	NA	NA	470	331	43	13	51	33	258	61	76	121
1968	78,308	12,737	9,230	3,507	3,507	NA	64,814	30,667	34,148	NA	NA	NA	492	347	38	19	45	44	264	61	78	126
1969	78,784	12,971	9,314	3,657	3,657	NA	65,016	32,931	32,085	NA	NA	NA	506	367	33	23	37	46	291	79	83	129
1970	74,281	13,375	9,910	3,465	3,465	NA	60,119	32,767	27,352	NA	NA	NA	492	366	28	22	31	44	296	86	79	132
1971	72,669	13,838	10,327	3,511	3,511	NA	58,157	32,399	25,758	NA	NA	NA	409	288	33	17	36	36	265	48	79	138
1972	75,042	14,020	10,567	3,453	3,453	NA	60,227	34,071	26,156	NA	NA	NA	404	250	50	14	54	36	390	174	76	140
1973	76,688	13,355	10,090	3,265	3,265	NA	62,249	37,109	25,140	NA	NA	NA	477	268	66	19	76	47	608	387	76	144
1974	74,921	13,058	9,635	3,423	3,423	NA	60,695	37,864	22,831	NA	NA	NA	490	260	70	23	85	52	679	456	75	147



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1975	72,402	12,732	9,215	3,517	3,517	NA	58,519	36,890	21,629	NA	NA	NA	498	263	71	26	88	51	653	429	75	149
1976	75,825	12,956	8,983	3,973	3,973	NA	61,699	38,962	22,737	NA	NA	NA	550	301	72	35	94	48	619	385	76	157
1977	78,745	13,110	9,073	4,037	4,037	NA	64,331	40,779	23,552	NA	NA	NA	723	435	79	41	114	53	581	339	78	165
1978	82,591	13,990	9,777	4,214	4,214	NA	67,060	43,774	23,286	NA	NA	NA	991	675	85	39	130	62	549	300	79	171
1979	87,078	13,995	9,688	4,306	4,306	NA	71,324	47,033	24,292	NA	NA	NA	1,153	826	84	38	137	68	605	351	79	175
1980	91,822	13,704	9,177	4,527	4,527	NA	76,274	51,583	24,691	NA	NA	NA	1,167	815	86	44	152	69	678	421	78	179
1981	95,433	13,820	9,337	4,483	4,483	NA	79,443	53,082	26,362	NA	NA	NA	1,170	795	90	49	164	72	1,000	741	77	181
1982	100,677	14,259	10,048	4,211	4,211	NA	84,288	56,702	27,586	NA	NA	NA	1,158	771	88	52	171	76	971	703	78	190
1983	107,854	15,851	11,399	4,453	4,453	NA	89,731	60,753	28,978	NA	NA	NA	1,152	745	88	58	182	80	1,119	835	82	203
1984	119,823	17,399	12,761	4,638	4,638	NA	99,829	68,025	31,803	NA	NA	NA	1,221	784	93	66	194	84	1,374	1,072	85	217
1985	130,191	19,071	13,995	5,076	5,076	NA	108,351	72,959	35,391	NA	NA	NA	1,321	849	100	76	210	86	1,448	1,125	89	234
1986	129,899	19,481	14,170	5,311	5,311	NA	107,664	70,817	36,847	NA	NA	NA	1,400	879	112	86	233	90	1,354	1,004	95	254
1987	133,470	19,198	13,652	5,545	5,545	NA	111,529	71,248	40,281	NA	NA	NA	1,577	1,000	122	95	259	101	1,166	791	100	276
1988	136,439	20,103	14,301	5,802	5,802	NA	113,507	75,239	38,268	NA	NA	NA	1,772	1,127	133	107	290	115	1,057	657	104	296
1989	136,234	20,174	14,529	5,645	5,645	NA	112,942	80,253	32,689	NA	NA	NA	1,906	1,201	142	118	318	126	1,212	787	108	316
1990	140,874	20,013	14,527	5,486	5,486	NA	117,375	88,972	28,403	NA	NA	NA	2,107	1,363	149	124	339	133	1,378	927	113	338
1991	137,842	17,726	12,722	5,004	5,004	NA	116,364	91,354	25,010	NA	NA	NA	2,223	1,466	149	125	347	136	1,528	1,047	118	364
1992	141,438	17,743	12,892	4,851	4,851	NA	119,840	95,493	24,347	NA	NA	NA	2,262	1,495	149	129	348	141	1,594	1,074	125	395



Year	All per-formers	All federal	Federal intramural <sup>a</sup>	FFRDCs <sup>b</sup>		Nonfederal govern-ment <sup>c</sup>	Business <sup>d</sup>						Higher education <sup>e</sup>				Other nonprofit organizations <sup>f</sup>					
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1993	138,005	16,689	12,556	4,133	4,133	NA	117,315	95,054	22,261	NA	NA	NA	2,352	1,560	151	135	359	148	1,649	1,089	132	428
1994	139,508	16,223	11,958	4,265	4,265	NA	119,115	97,147	21,968	NA	NA	NA	2,461	1,644	154	138	374	151	1,709	1,104	139	465
1995	150,123	16,846	12,296	4,550	4,550	NA	129,230	105,567	23,663	NA	NA	NA	2,405	1,566	163	144	382	150	1,641	987	148	506
1996	158,251	16,273	11,777	4,496	4,496	NA	138,024	115,773	22,251	NA	NA	NA	2,336	1,471	167	150	398	150	1,618	910	157	552
1997	164,926	15,904	11,635	4,269	4,269	NA	145,086	121,858	23,229	NA	NA	NA	2,170	1,335	154	145	393	143	1,766	880	198	688
1998	183,453	15,887	11,684	4,203	4,203	NA	163,635	140,237	23,399	NA	NA	NA	2,009	1,196	143	142	388	140	1,922	964	208	750
1999	192,737	15,737	11,572	4,165	4,165	NA	173,367	152,670	20,697	NA	NA	NA	1,702	857	146	145	406	147	1,931	908	222	800
2000	206,886	15,703	11,451	4,252	4,252	NA	187,752	171,254	16,498	NA	NA	NA	1,544	665	150	145	430	155	1,887	708	238	941
2001	200,278	17,263	13,208	4,056	3,907	NA	179,039	164,065	14,975	NA	NA	NA	1,682	771	153	140	454	163	2,293	1,043	235	1,015
2002	207,671	17,919	13,876	4,043	3,890	NA	185,548	170,189	15,359	NA	NA	NA	1,731	752	164	137	500	178	2,474	1,101	225	1,148
2003	202,320	19,096	14,580	4,515	4,364	NA	178,774	165,009	13,765	NA	NA	NA	2,075	1,034	179	136	538	187	2,376	857	225	1,294
2004	198,856	19,551	14,302	5,248	5,118	NA	173,962	157,782	16,179	NA	NA	NA	2,401	1,359	181	134	539	187	2,943	1,459	224	1,260
2005	212,780	20,411	15,213	5,197	5,059	NA	187,208	170,345	16,863	NA	NA	NA	2,280	1,246	172	133	545	185	2,882	1,316	230	1,335
2006	224,354	21,708	16,969	4,738	4,596	7	198,401	180,767	17,635	NA	NA	NA	2,006	977	165	133	548	183	2,232	636	239	1,357
2007	234,205	24,021	18,509	5,512	5,398	9	205,913	190,646	15,267	NA	NA	NA	1,970	919	168	137	555	191	2,292	583	247	1,462
2008	261,567	23,941	17,700	6,241	6,141	11	233,205	182,097	29,712	8,950	11,889	558	1,980	848	180	149	593	210	2,429	567	251	1,612
2009	256,036	23,497	17,245	6,252	6,159	13	226,554	179,841	30,435	7,041	8,732	505	3,441	1,569	288	289	915	381	2,531	550	241	1,740
2010	248,381	25,535	18,616	6,919	6,825	15	215,073	167,984	27,750	7,938	10,648	753	5,060	2,478	403	420	1,225	534	2,697	630	239	1,828



Year	All per-formers	All federal	Federal intramural <sup>a</sup>	FFRDCs <sup>b</sup>		Nonfederal govern-ment <sup>c</sup>	Business <sup>d</sup>						Higher education <sup>e</sup>				Other nonprofit organizations <sup>f</sup>					
	All funding sources	Total	Federal	Total	Federal	Total	Total	Own domestic	Federal	Other domestic business	Foreign business	Other	Total	Federal	Nonfederal govern-ment	Busi-ness	Higher ed-ucation	ONP	Total	Federal	Busi-ness	ONP
2011	262,311	27,830	21,178	6,652	6,568	15	226,391	181,776	25,387	7,711	10,905	611	5,237	2,580	389	422	1,297	549	2,839	765	247	1,827
2012	259,720	25,345	18,953	6,392	6,303	14	226,396	183,271	24,559	7,202	10,971	392	5,396	2,554	359	441	1,448	594	2,570	492	248	1,829
2013	268,577	24,726	18,489	6,237	6,147	13	235,712	194,117	20,706	8,165	12,109	616	5,497	2,479	368	469	1,562	620	2,629	443	258	1,927
2014	277,010	24,886	18,655	6,231	6,138	12	243,841	205,074	16,599	7,638	13,877	653	5,563	2,391	369	504	1,637	662	2,708	433	267	2,008
2015 <sup>g</sup>	285,906	25,195	18,677	6,519	6,419	12	252,296	209,639	17,134	9,358	15,368	796	5,639	2,331	367	509	1,716	717	2,763	406	273	2,083

NA = not available.

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

<sup>a</sup> See Appendix Table 4-2, footnote a.

<sup>b</sup> Type-of-R&D data for FFRDC R&D in 1953–54 includes the R&D of only university-administered FFRDCs. Starting in 2001, type-of-R&D data distinguish federally funded from nonfederally funded FFRDC R&D. (See also Appendix Table 4-2, footnote b.)

<sup>c</sup> Type-of-R&D data for state intramural R&D are not currently collected by the Survey of State Government R&D. (See also Appendix Table 4-2, 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 Appendix Table 4-2, 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. Type-of-R&D splits for other than total and federally funded are estimated. (See also Appendix Table 4-2, footnote e.)

<sup>f</sup> Type-of-R&D data for R&D by other nonprofit organizations in 1998 and later years are estimated, except for the R&D that is federally funded. (See also Appendix Table 4-2, footnote f.)

<sup>g</sup> Some data for 2015 are preliminary and may 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, as some back-year data may have been revised. Except for the nonprofit sector, data are based on annual reports by performers in the National Science Foundation's annual R&D expenditure surveys: Business R&D and Innovation Survey, Higher Education R&D Survey, Survey of Federal Funds for R&D, FFRDC R&D Expenditures Survey, and Survey of State Government R&D. R&D expenditures by business performers—and also, before 2001, 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 in 1977 and afterward, the approximation equals 75% of the amount reported in the same fiscal year plus 25% of the amount reported in the subsequent fiscal year. Before 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 the amount reported in the subsequent fiscal year.

**Source(s)**

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





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