



Appendix Table 4-8 U.S. applied research expenditures, by source of funds and performing sector: 1953–2013

Year	All sources of funds All performers	Federal							Nonfederal government					Business					U&C	Other nonprofit organizations				
		Total	Federal intramural	FFRDCs	Nonfederal government	Business	U&C	ONP	Total	FFRDCs	Nonfederal government	Business	U&C	Total	FFRDCs	Business	U&C	ONP		U&C	Total	FFRDCs	Business	U&C
Current \$millions																								
1953	1,289	756	347	48	NA	288	59	14	30	NA	NA	NA	30	456	NA	438	7	11	28	20	NA	NA	10	10
1954	1,378	785	330	59	NA	322	60	16	32	NA	NA	NA	32	513	NA	492	8	13	28	21	NA	NA	10	11
1955	1,502	838	333	86	NA	339	63	18	32	NA	NA	NA	32	583	NA	560	9	14	27	22	NA	NA	11	11
1956	1,929	1,026	387	125	NA	430	65	20	33	NA	NA	NA	33	818	NA	794	10	14	27	25	NA	NA	11	14
1957	2,413	1,304	446	149	NA	624	63	23	34	NA	NA	NA	34	1,018	NA	992	12	14	27	31	NA	NA	11	20
1958	2,759	1,497	516	156	NA	731	66	29	35	NA	NA	NA	35	1,163	NA	1,137	12	14	27	37	NA	NA	12	25
1959	2,940	1,630	577	179	NA	757	78	40	37	NA	NA	NA	37	1,206	NA	1,178	13	15	28	39	NA	NA	12	27
1960	3,065	1,732	615	201	NA	769	93	54	39	NA	NA	NA	39	1,226	NA	1,196	13	17	29	40	NA	NA	12	28
1961	3,123	1,811	668	240	NA	738	104	62	40	NA	NA	NA	40	1,195	NA	1,165	13	17	30	48	NA	NA	13	35
1962	3,698	2,098	709	249	NA	954	119	68	41	NA	NA	NA	41	1,471	NA	1,438	14	19	30	58	NA	NA	13	45
1963	3,864	2,244	809	275	NA	952	128	82	42	NA	NA	NA	42	1,483	NA	1,450	14	19	32	63	NA	NA	14	49
1964	4,201	2,462	947	313	NA	978	142	82	45	NA	NA	NA	45	1,593	NA	1,560	14	19	37	65	NA	NA	18	47
1965	4,374	2,553	994	294	NA	992	176	98	46	NA	NA	NA	46	1,654	NA	1,620	13	21	42	79	NA	NA	27	52
1966	4,653	2,625	1,012	290	NA	986	208	129	47	NA	NA	NA	47	1,842	NA	1,804	14	24	48	91	NA	NA	34	57
1967	4,848	2,763	1,069	334	NA	983	238	141	46	NA	NA	NA	46	1,890	NA	1,849	16	25	54	96	NA	NA	36	60
1968	5,137	2,811	1,112	334	NA	956	250	160	46	NA	NA	NA	46	2,125	NA	2,081	16	28	55	101	NA	NA	39	62
1969	5,454	2,924	1,229	336	NA	920	257	183	48	NA	NA	NA	48	2,320	NA	2,272	16	32	54	109	NA	NA	43	66
1970	5,752	3,100	1,334	336	NA	952	280	199	51	NA	NA	NA	51	2,429	NA	2,378	18	33	56	117	NA	NA	47	70
1971	5,833	3,091	1,355	312	NA	907	306	212	61	NA	NA	NA	61	2,494	NA	2,441	19	34	67	121	NA	NA	47	74



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	All sources of funds	Federal							Nonfederal government					Business					U&C	Other nonprofit organizations				
Year	All performers	Total	Federal intramural	FFRDCs	Nonfederal government	Business	U&C	ONP	Total	FFRDCs	Nonfederal government	Business	U&C	Total	FFRDCs	Business	U&C	ONP	U&C	Total	FFRDCs	Business	U&C	ONP
1972	6,147	3,243	1,434	358	NA	845	391	216	74	NA	NA	NA	74	2,618	NA	2,562	21	35	82	131	NA	NA	52	79
1973	6,655	3,429	1,527	334	NA	883	450	236	88	NA	NA	NA	88	2,894	NA	2,832	26	36	100	145	NA	NA	62	83
1974	7,344	3,634	1,652	335	NA	905	477	266	96	NA	NA	NA	96	3,333	NA	3,263	32	39	118	163	NA	NA	72	91
1975	8,091	4,125	1,912	384	NA	991	550	290	113	NA	NA	NA	113	3,520	NA	3,440	39	42	141	192	NA	NA	92	100
1976	8,976	4,464	2,068	457	NA	1,033	596	310	127	NA	NA	NA	127	4,001	NA	3,912	45	45	166	218	NA	NA	109	109
1977	9,662	4,683	2,081	540	NA	1,113	626	324	134	NA	NA	NA	134	4,410	NA	4,311	51	48	194	241	NA	NA	121	120
1978	10,704	5,080	2,242	597	NA	1,195	676	371	151	NA	NA	NA	151	4,982	NA	4,870	61	52	232	259	NA	NA	128	132
1979	12,097	5,602	2,415	654	NA	1,305	793	436	161	NA	NA	NA	161	5,797	NA	5,670	71	55	263	273	NA	NA	129	144
1980	13,729	6,252	2,546	749	NA	1,625	912	420	174	NA	NA	NA	174	6,698	NA	6,550	88	60	308	298	NA	NA	140	158
1981	16,329	6,905	2,731	788	NA	2,042	953	391	199	NA	NA	NA	199	8,531	NA	8,359	108	64	363	332	NA	NA	159	173
1982	18,218	7,689	2,802	890	NA	2,593	1,007	398	207	NA	NA	NA	207	9,553	NA	9,363	121	69	402	367	NA	NA	178	189
1983	20,298	8,738	2,991	965	NA	3,227	1,122	433	215	NA	NA	NA	215	10,501	NA	10,286	141	74	443	401	NA	NA	194	207
1984	22,451	9,499	2,961	1,176	NA	3,677	1,226	459	234	NA	NA	NA	234	11,788	NA	11,541	168	79	491	438	NA	NA	212	226
1985	25,401	10,930	3,135	1,292	NA	4,717	1,296	490	262	NA	NA	NA	262	13,191	NA	12,908	198	85	547	471	NA	NA	224	247
1986	27,240	10,409	3,204	1,258	NA	4,049	1,393	506	298	NA	NA	NA	298	15,402	NA	15,082	229	91	620	510	NA	NA	240	270
1987	27,951	10,829	3,366	1,228	NA	4,037	1,643	555	333	NA	NA	NA	333	15,511	NA	15,153	260	98	707	571	NA	NA	276	295
1988	29,528	10,749	3,362	984	NA	3,846	1,958	599	377	NA	NA	NA	377	16,938	NA	16,531	302	105	818	647	NA	NA	325	322
1989	32,277	11,753	3,566	1,047	NA	4,324	2,121	695	417	NA	NA	NA	417	18,452	NA	17,993	347	112	933	722	NA	NA	370	352
1990	34,897	13,695	3,652	1,156	NA	5,967	2,140	780	453	NA	NA	NA	453	18,930	NA	18,432	377	120	1,031	788	NA	NA	404	384
1991	38,631	14,280	4,093	1,446	NA	5,588	2,232	921	468	NA	NA	NA	468	21,946	NA	21,425	392	129	1,091	847	NA	NA	428	419
1992	37,936	13,690	4,337	1,529	NA	4,476	2,415	933	479	NA	NA	NA	479	21,736	NA	21,184	414	138	1,120	911	NA	NA	454	456
1993	37,283	14,075	4,838	1,500	NA	4,295	2,542	900	496	NA	NA	NA	496	20,547	NA	19,956	443	148	1,181	984	NA	NA	487	497
1994	36,618	13,800	4,985	1,596	NA	3,616	2,644	960	517	NA	NA	NA	517	19,995	NA	19,372	464	158	1,256	1,049	NA	NA	509	541



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Year	All performers	Total	Federal intramural	FFRDCs	Nonfederal government	Business	U&C	ONP	Total	FFRDCs	Nonfederal government	Business	U&C	Total	FFRDCs	Business	U&C	ONP	U&C	Total	FFRDCs	Business	U&C	ONP
1995	40,936	13,543	4,952	1,714	NA	3,164	2,779	934	559	NA	NA	NA	559	24,418	NA	23,755	494	170	1,311	1,104	NA	NA	516	589
1996	43,170	13,958	4,872	1,623	NA	3,640	2,864	960	584	NA	NA	NA	584	26,076	NA	25,370	524	182	1,390	1,162	NA	NA	522	640
1997	46,561	12,884	4,997	1,679	NA	2,648	2,550	1,011	554	NA	NA	NA	554	30,507	NA	29,782	520	205	1,392	1,224	NA	NA	514	711
1998	46,377	12,822	5,146	1,725	NA	2,632	2,260	1,060	529	NA	NA	NA	529	30,317	NA	29,576	523	218	1,385	1,324	NA	NA	515	809
1999	52,025	13,959	5,530	1,651	NA	2,817	2,661	1,300	549	NA	NA	NA	549	34,602	NA	33,821	545	236	1,471	1,444	NA	NA	553	891
2000	56,699	15,562	6,105	1,750	NA	2,682	3,194	1,831	575	NA	NA	NA	575	37,309	NA	36,494	556	258	1,594	1,660	NA	NA	595	1,066
2001	64,196	18,738	7,052	2,379	NA	3,603	3,553	2,150	610	5	NA	NA	604	41,256	33	40,409	553	261	1,722	1,871	52	NA	641	1,178
2002	50,821	19,166	7,487	2,905	NA	2,452	4,056	2,267	667	8	NA	NA	659	26,918	35	26,081	549	253	1,923	2,147	71	NA	714	1,362
2003	61,406	22,444	7,672	3,152	NA	4,473	4,660	2,487	742	9	NA	NA	733	33,711	36	32,861	556	259	2,112	2,396	65	NA	766	1,565
2004	69,495	22,637	7,455	3,057	NA	4,775	4,902	2,448	771	7	NA	NA	763	41,517	30	40,657	566	264	2,171	2,400	40	NA	788	1,572
2005	70,030	23,550	7,557	3,241	NA	5,289	5,032	2,432	756	8	NA	NA	748	40,889	35	39,995	578	280	2,262	2,573	45	NA	805	1,723
2006	76,916	25,067	7,435	3,531	NA	6,140	5,318	2,592	851	8	NA	NA	741	45,975	47	45,033	596	300	2,345	2,678	54	NA	821	1,802
2007	85,612	29,651	7,222	5,293	NA	8,945	5,548	2,583	897	14	NA	NA	774	49,651	77	48,625	631	318	2,439	2,974	92	NA	881	2,001
2008	76,897	27,365	7,316	5,843	NA	5,397	6,144	2,600	1,038	15	NA	71	847	42,412	89	41,292	701	330	2,659	3,423	93	105	988	2,237
2009	75,755	33,032	7,874	6,534	NA	7,797	7,697	3,049	1,208	20	NA	38	1,029	34,396	92	33,124	861	319	3,214	3,905	112	96	1,252	2,445
2010	83,232	32,428	8,016	7,196	NA	4,705	9,375	3,041	1,375	23	NA	32	1,172	41,366	85	39,987	973	321	3,746	4,316	112	182	1,477	2,545
2011	86,146	32,277	8,024	7,025	NA	4,404	10,030	2,693	1,399	16	NA	70	1,167	44,032	103	42,591	1,001	338	4,074	4,363	114	122	1,533	2,594
2012	90,571	32,288	8,587	6,894	NA	4,137	9,944	2,629	1,354	22	NA	45	1,150	47,937	96	46,436	1,059	346	4,475	4,517	108	137	1,631	2,641
2013 ^a	90,629	33,357	8,337	6,578	NA	6,028	9,845	2,472	1,340	23	NA	47	1,132	46,290	82	44,738	1,103	366	4,801	4,841	83	200	1,726	2,833
Constant 2009 \$millions																								
1953	8,505	4,985	2,290	313	NA	1,900	389	92	199	NA	NA	NA	199	3,006	NA	2,890	43	73	184	132	NA	NA	66	66
1954	9,009	5,132	2,154	382	NA	2,105	389	101	206	NA	NA	NA	206	3,351	NA	3,217	49	85	183	137	NA	NA	65	72



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Year	All performers	Total	Federal intramural	FFRDCs	Nonfederal government	Business	U&C	ONP	Total	FFRDCs	Nonfederal government	Business	U&C	Total	FFRDCs	Business	U&C	ONP	U&C	Total	FFRDCs	Business	U&C	ONP
1955	9,650	5,386	2,140	553	NA	2,176	405	112	208	NA	NA	NA	208	3,743	NA	3,599	55	90	175	138	NA	NA	67	71
1956	11,986	6,374	2,402	774	NA	2,670	404	124	206	NA	NA	NA	206	5,084	NA	4,935	62	87	167	155	NA	NA	68	87
1957	14,514	7,841	2,679	896	NA	3,751	379	135	204	NA	NA	NA	204	6,120	NA	5,966	69	84	163	186	NA	NA	66	120
1958	16,229	8,805	3,035	918	NA	4,299	385	168	208	NA	NA	NA	208	6,841	NA	6,688	71	82	160	215	NA	NA	68	147
1959	17,053	9,457	3,344	1,038	NA	4,393	450	232	214	NA	NA	NA	214	6,993	NA	6,834	73	87	163	226	NA	NA	70	157
1960	17,540	9,910	3,516	1,150	NA	4,402	532	309	221	NA	NA	NA	221	7,015	NA	6,843	74	97	165	229	NA	NA	69	160
1961	17,675	10,249	3,781	1,355	NA	4,177	586	351	226	NA	NA	NA	226	6,763	NA	6,594	74	96	167	269	NA	NA	71	198
1962	20,674	11,731	3,961	1,392	NA	5,335	663	380	227	NA	NA	NA	227	8,222	NA	8,040	75	106	170	324	NA	NA	73	252
1963	21,363	12,407	4,472	1,518	NA	5,262	705	451	233	NA	NA	NA	233	8,199	NA	8,016	77	105	179	346	NA	NA	75	271
1964	22,873	13,402	5,153	1,704	NA	5,325	773	446	246	NA	NA	NA	246	8,671	NA	8,494	74	103	203	351	NA	NA	95	256
1965	23,386	13,649	5,312	1,569	NA	5,304	938	524	248	NA	NA	NA	248	8,844	NA	8,662	70	112	225	420	NA	NA	142	278
1966	24,198	13,650	5,264	1,508	NA	5,128	1,082	668	245	NA	NA	NA	245	9,580	NA	9,383	73	125	252	471	NA	NA	174	296
1967	24,503	13,965	5,400	1,686	NA	4,968	1,200	710	231	NA	NA	NA	231	9,550	NA	9,345	78	126	272	485	NA	NA	182	303
1968	24,903	13,625	5,388	1,619	NA	4,634	1,210	773	223	NA	NA	NA	223	10,301	NA	10,088	78	136	267	487	NA	NA	187	301
1969	25,202	13,509	5,680	1,550	NA	4,251	1,185	843	222	NA	NA	NA	222	10,720	NA	10,498	74	148	249	501	NA	NA	196	305
1970	25,247	13,608	5,855	1,475	NA	4,178	1,227	873	225	NA	NA	NA	225	10,658	NA	10,437	77	145	245	511	NA	NA	204	307
1971	24,363	12,910	5,659	1,301	NA	3,788	1,278	883	253	NA	NA	NA	253	10,415	NA	10,195	77	142	280	505	NA	NA	196	309
1972	24,610	12,984	5,741	1,433	NA	3,383	1,563	863	297	NA	NA	NA	297	10,480	NA	10,257	82	140	328	522	NA	NA	206	316
1973	25,271	13,021	5,799	1,268	NA	3,353	1,707	894	333	NA	NA	NA	333	10,989	NA	10,753	99	137	379	549	NA	NA	234	315
1974	25,587	12,662	5,757	1,165	NA	3,153	1,660	927	335	NA	NA	NA	335	11,613	NA	11,368	110	135	411	566	NA	NA	249	317
1975	25,800	13,154	6,096	1,223	NA	3,160	1,752	923	362	NA	NA	NA	362	11,225	NA	10,969	123	133	448	612	NA	NA	293	318
1976	27,133	13,493	6,252	1,381	NA	3,122	1,800	937	385	NA	NA	NA	385	12,094	NA	11,825	135	135	500	660	NA	NA	329	331
1977	27,500	13,329	5,922	1,537	NA	3,168	1,780	923	383	NA	NA	NA	383	12,551	NA	12,270	145	137	552	685	NA	NA	343	342



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Year	All performers	Total	Federal intramural	FFRDCs	Nonfederal government	Business	U&C	ONP	Total	FFRDCs	Nonfederal government	Business	U&C	Total	FFRDCs	Business	U&C	ONP	U&C	Total	FFRDCs	Business	U&C	ONP
1978	28,468	13,511	5,962	1,587	NA	3,178	1,797	987	402	NA	NA	NA	402	13,250	NA	12,951	161	137	616	689	NA	NA	339	350
1979	29,718	13,763	5,933	1,607	NA	3,206	1,947	1,070	397	NA	NA	NA	397	14,241	NA	13,929	175	136	646	671	NA	NA	317	354
1980	30,938	14,088	5,737	1,688	NA	3,662	2,055	946	391	NA	NA	NA	391	15,093	NA	14,760	199	134	694	672	NA	NA	316	356
1981	33,654	14,232	5,629	1,625	NA	4,208	1,963	806	411	NA	NA	NA	411	17,581	NA	17,227	222	132	747	683	NA	NA	327	356
1982	35,354	14,922	5,437	1,728	NA	5,032	1,953	772	403	NA	NA	NA	403	18,538	NA	18,170	235	133	780	712	NA	NA	345	367
1983	37,895	16,313	5,584	1,801	NA	6,025	2,095	808	401	NA	NA	NA	401	19,604	NA	19,203	264	138	827	749	NA	NA	362	386
1984	40,477	17,126	5,338	2,120	NA	6,629	2,211	828	422	NA	NA	NA	422	21,253	NA	20,807	303	143	886	790	NA	NA	382	408
1985	44,376	19,095	5,477	2,257	NA	8,241	2,265	855	457	NA	NA	NA	457	23,044	NA	22,551	345	148	956	824	NA	NA	391	432
1986	46,646	17,825	5,487	2,154	NA	6,934	2,385	866	510	NA	NA	NA	510	26,375	NA	25,827	392	156	1,062	873	NA	NA	411	463
1987	46,674	18,083	5,620	2,051	NA	6,741	2,743	927	556	NA	NA	NA	556	25,901	NA	25,304	434	163	1,181	954	NA	NA	461	493
1988	47,640	17,342	5,424	1,587	NA	6,205	3,159	966	608	NA	NA	NA	608	27,327	NA	26,671	487	169	1,319	1,044	NA	NA	524	520
1989	50,126	18,252	5,539	1,626	NA	6,715	3,294	1,079	647	NA	NA	NA	647	28,656	NA	27,943	539	174	1,449	1,121	NA	NA	575	546
1990	52,261	20,510	5,469	1,731	NA	8,936	3,206	1,167	678	NA	NA	NA	678	28,349	NA	27,604	565	180	1,544	1,180	NA	NA	605	575
1991	55,991	20,697	5,933	2,095	NA	8,099	3,235	1,335	678	NA	NA	NA	678	31,807	NA	31,053	568	187	1,581	1,228	NA	NA	621	607
1992	53,757	19,399	6,145	2,166	NA	6,343	3,422	1,323	678	NA	NA	NA	678	30,802	NA	30,019	587	196	1,587	1,290	NA	NA	644	646
1993	51,604	19,481	6,697	2,076	NA	5,945	3,518	1,245	686	NA	NA	NA	686	28,440	NA	27,622	613	205	1,635	1,362	NA	NA	675	688
1994	49,627	18,703	6,756	2,162	NA	4,901	3,583	1,300	701	NA	NA	NA	701	27,098	NA	26,254	629	215	1,702	1,422	NA	NA	689	733
1995	54,347	17,980	6,575	2,275	NA	4,201	3,689	1,240	742	NA	NA	NA	742	32,418	NA	31,537	656	225	1,741	1,466	NA	NA	685	781
1996	56,285	18,198	6,352	2,115	NA	4,746	3,734	1,251	761	NA	NA	NA	761	33,997	NA	33,077	683	237	1,813	1,516	NA	NA	681	834
1997	59,685	16,516	6,405	2,152	NA	3,394	3,269	1,296	710	NA	NA	NA	710	39,105	NA	38,176	666	263	1,784	1,569	NA	NA	658	911
1998	58,809	16,260	6,525	2,187	NA	3,338	2,865	1,344	671	NA	NA	NA	671	38,444	NA	37,505	663	276	1,756	1,680	NA	NA	654	1,026
1999	64,978	17,434	6,907	2,062	NA	3,518	3,324	1,623	686	NA	NA	NA	686	43,217	NA	42,242	681	295	1,838	1,803	NA	NA	691	1,113
2000	69,241	19,005	7,456	2,138	NA	3,275	3,900	2,236	702	NA	NA	NA	702	45,561	NA	44,566	679	316	1,946	2,027	NA	NA	726	1,301



	All sources of funds	Federal							Nonfederal government					Business					U&C	Other nonprofit organizations				
Year	All performers	Total	Federal intramural	FFRDCs	Nonfederal government	Business	U&C	ONP	Total	FFRDCs	Nonfederal government	Business	U&C	Total	FFRDCs	Business	U&C	ONP	U&C	Total	FFRDCs	Business	U&C	ONP
2001	76,649	22,372	8,420	2,840	NA	4,302	4,243	2,567	728	6	NA	NA	721	49,259	40	48,247	660	311	2,056	2,234	62	NA	766	1,407
2002	59,762	22,538	8,805	3,416	NA	2,883	4,769	2,665	784	10	NA	NA	774	31,654	41	30,669	646	297	2,261	2,525	84	NA	839	1,602
2003	70,797	25,876	8,845	3,634	NA	5,157	5,373	2,867	855	10	NA	NA	846	38,867	41	37,887	641	298	2,435	2,763	75	NA	883	1,805
2004	77,980	25,400	8,365	3,430	NA	5,358	5,500	2,747	865	8	NA	NA	856	46,585	34	45,621	635	296	2,437	2,693	45	NA	885	1,763
2005	76,129	25,601	8,216	3,523	NA	5,750	5,470	2,643	821	9	NA	NA	813	44,450	38	43,479	629	305	2,459	2,797	49	NA	875	1,874
2006	81,123	26,438	7,841	3,724	NA	6,476	5,609	2,734	897	9	NA	NA	781	48,490	49	47,496	629	316	2,473	2,824	57	NA	866	1,901
2007	87,954	30,462	7,419	5,438	NA	9,190	5,700	2,653	922	14	NA	NA	795	51,009	79	49,955	648	327	2,505	3,055	94	NA	905	2,056
2008	77,481	27,573	7,372	5,887	NA	5,438	6,191	2,620	1,046	15	NA	71	853	42,734	90	41,605	707	332	2,679	3,449	94	105	995	2,254
2009	75,755	33,032	7,874	6,534	NA	7,797	7,697	3,049	1,208	20	NA	38	1,029	34,396	92	33,124	861	319	3,214	3,905	112	96	1,252	2,445
2010	82,227	32,037	7,919	7,109	NA	4,648	9,261	3,004	1,359	23	NA	32	1,158	40,866	84	39,504	961	317	3,701	4,264	110	180	1,459	2,514
2011	83,385	31,242	7,767	6,799	NA	4,263	9,709	2,607	1,354	16	NA	67	1,130	42,621	99	41,226	969	327	3,944	4,223	110	118	1,484	2,511
2012	86,122	30,702	8,165	6,555	NA	3,934	9,456	2,500	1,287	21	NA	43	1,094	45,583	91	44,155	1,007	329	4,255	4,295	103	130	1,551	2,511
2013 ^a	84,911	31,253	7,811	6,163	NA	5,648	9,224	2,316	1,255	22	NA	44	1,061	43,369	77	41,916	1,034	343	4,498	4,536	78	187	1,617	2,654

NA = not available.

FFRDC = federally funded R&D center; ONP = other nonprofit organizations; U&C = universities and colleges.

^a Some components of the 2013 data are estimates and may later be revised.

NOTES:

This table reaggregates the R&D performer data in appendix table 4-4 according to major categories of R&D funding: federal government, nonfederal government (state and local), business, U&C, and ONP. For interpretive detail on the R&D performers listed, see notes a–f in appendix table 4-2. Detail may not add to total because of rounding. Constant-dollar estimates are derived from unrounded data. For 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: the Business R&D and Innovation Survey, the Higher Education Research and Development Survey, the Survey of Federal Funds for Research and Development, the FFRDC Research and Development Survey, and the Survey of State Government Research and Development. R&D expenditures by business performers—and, 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 (see notes in appendix table 4-4). The 1998–2013 data for ONP R&D performance funded by businesses and the nonprofit sector itself are estimated, based on parameters from the 1996–97 Survey of Research and Development Funding and Performance by Nonprofit Organizations. Character-of-work 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 onward, the character-of-work splits for other than total, own-funded, and federally funded R&D are estimated (see also note d in appendix table 4-2). Character-of-work data for FFRDC R&D in 1953–54 include only those of U&C-administered FFRDCs. Starting in 2001, character-of-work data distinguish federally funded from nonfederally funded FFRDC R&D (see also note b in appendix table 4-2). 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. Furthermore, the character-of-work splits for other than total and federally funded R&D are estimated (see also note e in appendix table 4-2). Character-of-work data for R&D by ONP in 1998 and later years are estimated, except for those that are federally funded (see also note f in appendix table 4-2). Character-of-work data for state internal R&D are not currently collected by the Survey of State Government Research and Development (see also note c in appendix table 4-2).



SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, National Patterns of R&D Resources (annual series).
Science and Engineering Indicators 2016