

TABLE 4. U.S. applied research expenditures, by performing sector and source of funds: 1953–2015

Year	All per- formers	All federal	Federal intramural ^a	FFRDCs ^b		Nonfederal govern- ment ^c			Business ^d				Higher education ^e				Other nonprofit organizations ^f					
	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	1,289	395	347	48	48	NA	726	438	288	NA	NA	NA	134	59	30	7	28	10	35	14	11	10
1954	1,378	388	330	59	59	NA	814	492	322	NA	NA	NA	137	60	32	8	28	10	40	16	13	11
1955	1,502	419	333	86	86	NA	899	560	339	NA	NA	NA	142	63	32	9	27	11	43	18	14	11
1956	1,929	511	387	125	125	NA	1,224	794	430	NA	NA	NA	146	65	33	10	27	11	48	20	14	14
1957	2,413	595	446	149	149	NA	1,616	992	624	NA	NA	NA	147	63	34	12	27	11	57	23	14	20
1958	2,759	672	516	156	156	NA	1,868	1,137	731	NA	NA	NA	152	66	35	12	27	12	68	29	14	25
1959	2,940	756	577	179	179	NA	1,935	1,178	757	NA	NA	NA	167	78	37	13	28	12	82	40	15	27
1960	3,065	816	615	201	201	NA	1,965	1,196	769	NA	NA	NA	186	93	39	13	29	12	99	54	17	28
1961	3,123	908	668	240	240	NA	1,903	1,165	738	NA	NA	NA	199	104	40	13	30	13	114	62	17	35
1962	3,698	958	709	249	249	NA	2,392	1,438	954	NA	NA	NA	216	119	41	14	30	13	132	68	19	45
1963	3,864	1,084	809	275	275	NA	2,402	1,450	952	NA	NA	NA	230	128	42	14	32	14	150	82	19	49
1964	4,201	1,260	947	313	313	NA	2,538	1,560	978	NA	NA	NA	256	142	45	14	37	18	148	82	19	47
1965	4,374	1,287	994	294	294	NA	2,612	1,620	992	NA	NA	NA	304	176	46	13	42	27	171	98	21	52
1966	4,653	1,302	1,012	290	290	NA	2,790	1,804	986	NA	NA	NA	351	208	47	14	48	34	210	129	24	57
1967	4,848	1,402	1,069	334	334	NA	2,832	1,849	983	NA	NA	NA	389	238	46	16	54	36	226	141	25	60
1968	5,137	1,446	1,112	334	334	NA	3,037	2,081	956	NA	NA	NA	405	250	46	16	55	39	250	160	28	62
1969	5,454	1,565	1,229	336	336	NA	3,192	2,272	920	NA	NA	NA	417	257	48	16	54	43	281	183	32	66
1970	5,752	1,670	1,334	336	336	NA	3,330	2,378	952	NA	NA	NA	451	280	51	18	56	47	302	199	33	70
1971	5,833	1,666	1,355	312	312	NA	3,348	2,441	907	NA	NA	NA	499	306	61	19	67	47	320	212	34	74
1972	6,147	1,792	1,434	358	358	NA	3,407	2,562	845	NA	NA	NA	619	391	74	21	82	52	330	216	35	79
1973	6,655	1,861	1,527	334	334	NA	3,715	2,832	883	NA	NA	NA	725	450	88	26	100	62	355	236	36	83
1974	7,344	1,987	1,652	335	335	NA	4,168	3,263	905	NA	NA	NA	794	477	96	32	118	72	396	266	39	91
1975	8,091	2,295	1,912	384	384	NA	4,431	3,440	991	NA	NA	NA	934	550	113	39	141	92	431	290	42	100
1976	8,976	2,525	2,068	457	457	NA	4,945	3,912	1,033	NA	NA	NA	1,042	596	127	45	166	109	464	310	45	109
1977	9,662	2,621	2,081	540	540	NA	5,424	4,311	1,113	NA	NA	NA	1,126	626	134	51	194	121	492	324	48	120
1978	10,704	2,838	2,242	597	597	NA	6,065	4,870	1,195	NA	NA	NA	1,247	676	151	61	232	128	554	371	52	132
1979	12,097	3,069	2,415	654	654	NA	6,975	5,670	1,305	NA	NA	NA	1,418	793	161	71	263	129	635	436	55	144
1980	13,729	3,295	2,546	749	749	NA	8,175	6,550	1,625	NA	NA	NA	1,622	912	174	88	308	140	637	420	60	158
1981	16,329	3,520	2,731	788	788	NA	10,401	8,359	2,042	NA	NA	NA	1,781	953	199	108	363	159	628	391	64	173
1982	18,218	3,692	2,802	890	890	NA	11,956	9,363	2,593	NA	NA	NA	1,915	1,007	207	121	402	178	655	398	69	189
1983	20,298	3,956	2,991	965	965	NA	13,513	10,286	3,227	NA	NA	NA	2,116	1,122	215	141	443	194	713	433	74	207

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Year	All performers	All federal	Federal intramural ^a	FFRDCs ^b		Nonfederal government ^c							Business ^d				Higher education ^e				Other nonprofit organizations ^f			
						Own		Other domestic business		Foreign business			Nonfederal government		Higher education		Total		Business					
						Total	domestic	Federal	Other domestic business	Foreign business	Other	Total	Federal	Total	Federal	ONP	Total	Federal	Business	ONP				
1984	22,451	4,137	2,961	1,176	1,176	NA	15,218	11,541	3,677	NA	NA	NA	2,332	1,226	234	168	491	212	764	459	79	226		
1985	25,401	4,427	3,135	1,292	1,292	NA	17,625	12,908	4,717	NA	NA	NA	2,527	1,296	262	198	547	224	822	490	85	247		
1986	27,240	4,462	3,204	1,258	1,258	NA	19,131	15,082	4,049	NA	NA	NA	2,780	1,393	298	229	620	240	867	506	91	270		
1987	27,951	4,594	3,366	1,228	1,228	NA	19,190	15,153	4,037	NA	NA	NA	3,219	1,643	333	260	707	276	948	555	98	295		
1988	29,528	4,346	3,362	984	984	NA	20,377	16,531	3,846	NA	NA	NA	3,779	1,958	377	302	818	325	1,026	599	105	322		
1989	32,277	4,613	3,566	1,047	1,047	NA	22,317	17,993	4,324	NA	NA	NA	4,188	2,121	417	347	933	370	1,159	695	112	352		
1990	34,897	4,808	3,652	1,156	1,156	NA	24,399	18,432	5,967	NA	NA	NA	4,406	2,140	453	377	1,031	404	1,284	780	120	384		
1991	38,631	5,539	4,093	1,446	1,446	NA	27,013	21,425	5,588	NA	NA	NA	4,611	2,232	468	392	1,091	428	1,468	921	129	419		
1992	37,936	5,866	4,337	1,529	1,529	NA	25,660	21,184	4,476	NA	NA	NA	4,882	2,415	479	414	1,120	454	1,528	933	138	456		
1993	37,283	6,338	4,838	1,500	1,500	NA	24,251	19,956	4,295	NA	NA	NA	5,149	2,542	496	443	1,181	487	1,544	900	148	497		
1994	36,618	6,581	4,985	1,596	1,596	NA	22,988	19,372	3,616	NA	NA	NA	5,390	2,644	517	464	1,256	509	1,659	960	158	541		
1995	40,936	6,666	4,952	1,714	1,714	NA	26,919	23,755	3,164	NA	NA	NA	5,659	2,779	559	494	1,311	516	1,692	934	170	589		
1996	43,170	6,495	4,872	1,623	1,623	NA	29,010	25,370	3,640	NA	NA	NA	5,885	2,864	584	524	1,390	522	1,781	960	182	640		
1997	46,561	6,675	4,997	1,679	1,679	NA	32,430	29,782	2,648	NA	NA	NA	5,529	2,550	554	520	1,392	514	1,926	1,011	205	711		
1998	46,377	6,871	5,146	1,725	1,725	NA	32,208	29,576	2,632	NA	NA	NA	5,211	2,260	529	523	1,385	515	2,087	1,060	218	809		
1999	52,025	7,181	5,530	1,651	1,651	NA	36,638	33,821	2,817	NA	NA	NA	5,780	2,661	549	545	1,471	553	2,427	1,300	236	891		
2000	56,699	7,856	6,105	1,750	1,750	NA	39,176	36,494	2,682	NA	NA	NA	6,513	3,194	575	556	1,594	595	3,155	1,831	258	1,066		
2001	64,196	9,522	7,052	2,469	2,379	NA	44,012	40,409	3,603	NA	NA	NA	7,073	3,553	604	553	1,722	641	3,589	2,150	261	1,178		
2002	50,821	10,506	7,487	3,019	2,905	NA	28,533	26,081	2,452	NA	NA	NA	7,900	4,056	659	549	1,923	714	3,882	2,267	253	1,362		
2003	61,406	10,933	7,672	3,262	3,152	NA	37,334	32,861	4,473	NA	NA	NA	8,827	4,660	733	556	2,112	766	4,311	2,487	259	1,565		
2004	69,495	10,589	7,455	3,135	3,057	NA	45,432	40,657	4,775	NA	NA	NA	9,190	4,902	763	566	2,171	788	4,283	2,448	264	1,572		
2005	70,030	10,886	7,557	3,329	3,241	NA	45,284	39,995	5,289	NA	NA	NA	9,424	5,032	748	578	2,262	805	4,435	2,432	280	1,723		
2006	76,916	11,075	7,435	3,640	3,531	NA	51,173	45,033	6,140	NA	NA	NA	9,821	5,318	741	596	2,345	821	4,694	2,592	300	1,802		
2007	85,612	12,697	7,222	5,475	5,293	NA	57,570	48,625	8,945	NA	NA	NA	10,273	5,548	774	631	2,439	881	4,902	2,583	318	2,001		
2008	76,897	13,356	7,316	6,040	5,843	NA	46,864	35,382	5,397	2,815	3,094	175	11,339	6,144	847	701	2,659	988	5,167	2,600	330	2,237		
2009	75,187	14,063	7,874	6,189	5,979	NA	41,055	29,264	7,797	1,865	1,996	134	14,053	7,697	1,028	861	3,214	1,252	5,813	3,049	319	2,445		
2010	81,003	13,203	8,016	5,187	5,025	NA	44,906	34,912	4,705	2,256	2,819	214	16,742	9,374	1,172	973	3,746	1,477	5,907	3,041	321	2,546		
2011	84,112	13,251	8,024	5,227	5,057	NA	47,186	37,047	4,404	2,413	3,131	191	17,805	10,029	1,167	1,001	4,074	1,533	5,625	2,693	338	2,594		
2012	89,063	14,328	8,587	5,741	5,566	NA	50,755	38,891	4,137	3,336	4,209	182	18,131	9,940	1,133	1,044	4,409	1,605	5,616	2,629	346	2,641		
2013	90,265	15,132	8,309	6,823	6,639	NA	51,013	37,385	6,028	3,275	4,078	247	18,226	9,556	1,148	1,104	4,692	1,727	5,659	2,465	366	2,828		
2014 ^g	93,631	15,519	8,609	6,910	6,721	NA	53,415	38,281	6,445	3,331	5,074	285	18,543	9,327	1,177	1,186	4,985	1,867	5,915	2,522	385	3,008		
2015 ^h	96,297	15,896	8,683	7,213	7,028	NA	55,022	42,087	4,736	3,095	4,840	265	19,037	9,318	1,163	1,261	5,303	1,992	6,099	2,544	408	3,147		

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Year	All per- formers	All federal	Federal intramural ^a	FFRDCs ^b		Nonfederal govern- ment ^c		Business ^d				Higher education ^e				Other nonprofit organizations ^f						
	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
	Constant 2009 \$millions																					
1953	8,505	2,603	2,290	313	313	NA	4,790	2,890	1,900	NA	NA	NA	881	389	199	43	184	66	231	92	73	66
1954	9,009	2,537	2,154	382	382	NA	5,322	3,217	2,105	NA	NA	NA	892	389	206	49	183	65	258	101	85	72
1955	9,650	2,693	2,140	553	553	NA	5,775	3,599	2,176	NA	NA	NA	909	405	208	55	175	67	273	112	90	71
1956	11,986	3,176	2,402	774	774	NA	7,605	4,935	2,670	NA	NA	NA	907	404	206	62	167	68	298	124	87	87
1957	14,514	3,576	2,679	896	896	NA	9,718	5,966	3,751	NA	NA	NA	881	379	204	69	163	66	340	135	84	120
1958	16,229	3,953	3,035	918	918	NA	10,988	6,688	4,299	NA	NA	NA	891	385	208	71	160	68	397	168	82	147
1959	17,053	4,383	3,344	1,038	1,038	NA	11,226	6,834	4,393	NA	NA	NA	969	450	214	73	163	70	476	232	87	157
1960	17,540	4,666	3,516	1,150	1,150	NA	11,246	6,843	4,402	NA	NA	NA	1,061	532	221	74	165	69	566	309	97	160
1961	17,675	5,136	3,781	1,355	1,355	NA	10,770	6,594	4,177	NA	NA	NA	1,123	586	226	74	167	71	645	351	96	198
1962	20,674	5,353	3,961	1,392	1,392	NA	13,375	8,040	5,335	NA	NA	NA	1,208	663	227	75	170	73	738	380	106	252
1963	21,363	5,990	4,472	1,518	1,518	NA	13,278	8,016	5,262	NA	NA	NA	1,269	705	233	77	179	75	826	451	105	271
1964	22,873	6,858	5,153	1,704	1,704	NA	13,819	8,494	5,325	NA	NA	NA	1,391	773	246	74	203	95	806	446	103	256
1965	23,386	6,882	5,312	1,569	1,569	NA	13,967	8,662	5,304	NA	NA	NA	1,623	938	248	70	225	142	914	524	112	278
1966	24,198	6,772	5,264	1,508	1,508	NA	14,511	9,383	5,128	NA	NA	NA	1,826	1,082	245	73	252	174	1,090	668	125	296
1967	24,503	7,086	5,400	1,686	1,686	NA	14,313	9,345	4,968	NA	NA	NA	1,964	1,200	231	78	272	182	1,140	710	126	303
1968	24,903	7,007	5,388	1,619	1,619	NA	14,723	10,088	4,634	NA	NA	NA	1,963	1,210	223	78	267	187	1,210	773	136	301
1969	25,202	7,230	5,680	1,550	1,550	NA	14,749	10,498	4,251	NA	NA	NA	1,927	1,185	222	74	249	196	1,296	843	148	305
1970	25,247	7,329	5,855	1,475	1,475	NA	14,615	10,437	4,178	NA	NA	NA	1,977	1,227	225	77	245	204	1,325	873	145	307
1971	24,363	6,960	5,659	1,301	1,301	NA	13,984	10,195	3,788	NA	NA	NA	2,084	1,278	253	77	280	196	1,334	883	142	309
1972	24,610	7,174	5,741	1,433	1,433	NA	13,640	10,257	3,383	NA	NA	NA	2,476	1,563	297	82	328	206	1,319	863	140	316
1973	25,271	7,068	5,799	1,268	1,268	NA	14,106	10,753	3,353	NA	NA	NA	2,751	1,707	333	99	379	234	1,346	894	137	315
1974	25,587	6,922	5,757	1,165	1,165	NA	14,521	11,368	3,153	NA	NA	NA	2,765	1,660	335	110	411	249	1,379	927	135	317
1975	25,800	7,319	6,096	1,223	1,223	NA	14,129	10,969	3,160	NA	NA	NA	2,978	1,752	362	123	448	293	1,374	923	133	318
1976	27,133	7,633	6,252	1,381	1,381	NA	14,947	11,825	3,122	NA	NA	NA	3,149	1,800	385	135	500	329	1,403	937	135	331
1977	27,500	7,458	5,922	1,537	1,537	NA	15,437	12,270	3,168	NA	NA	NA	3,203	1,780	383	145	552	343	1,401	923	137	342
1978	28,468	7,548	5,962	1,587	1,587	NA	16,129	12,951	3,178	NA	NA	NA	3,316	1,797	402	161	616	339	1,474	987	137	350
1979	29,718	7,540	5,933	1,607	1,607	NA	17,135	13,929	3,206	NA	NA	NA	3,482	1,947	397	175	646	317	1,561	1,070	136	354
1980	30,938	7,425	5,737	1,688	1,688	NA	18,422	14,760	3,662	NA	NA	NA	3,656	2,055	391	199	694	316	1,436	946	134	356
1981	33,654	7,254	5,629	1,625	1,625	NA	21,436	17,227	4,208	NA	NA	NA	3,670	1,963	411	222	747	327	1,294	806	132	356
1982	35,354	7,165	5,437	1,728	1,728	NA	23,202	18,170	5,032	NA	NA	NA	3,716	1,953	403	235	780	345	1,272	772	133	367
1983	37,895	7,386	5,584	1,801	1,801	NA	25,228	19,203	6,025	NA	NA	NA	3,950	2,095	401	264	827	362	1,332	808	138	386

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	All funding sources	Total	Federal	Total	Federal	Total	Business ^d			Higher education ^e				Other nonprofit organizations ^f										
							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			
1984	40,477	7,458	5,338	2,120	2,120	NA	27,437	20,807	6,629	NA	NA	NA	4,204	2,211	422	303	886	382	1,378	828	143	408		
1985	44,376	7,733	5,477	2,257	2,257	NA	30,791	22,551	8,241	NA	NA	NA	4,415	2,265	457	345	956	391	1,436	855	148	432		
1986	46,646	7,641	5,487	2,154	2,154	NA	32,761	25,827	6,934	NA	NA	NA	4,760	2,385	510	392	1,062	411	1,484	866	156	463		
1987	46,674	7,671	5,620	2,051	2,051	NA	32,045	25,304	6,741	NA	NA	NA	5,375	2,743	556	434	1,181	461	1,583	927	163	493		
1988	47,640	7,011	5,424	1,587	1,587	NA	32,876	26,671	6,205	NA	NA	NA	6,098	3,159	608	487	1,319	524	1,655	966	169	520		
1989	50,126	7,164	5,539	1,626	1,626	NA	34,658	27,943	6,715	NA	NA	NA	6,504	3,294	647	539	1,449	575	1,800	1,079	174	546		
1990	52,261	7,201	5,469	1,731	1,731	NA	36,540	27,604	8,936	NA	NA	NA	6,598	3,206	678	565	1,544	605	1,922	1,167	180	575		
1991	55,991	8,028	5,933	2,095	2,095	NA	39,152	31,053	8,099	NA	NA	NA	6,682	3,235	678	568	1,581	621	2,128	1,335	187	607		
1992	53,757	8,312	6,145	2,166	2,166	NA	36,362	30,019	6,343	NA	NA	NA	6,918	3,422	678	587	1,587	644	2,165	1,323	196	646		
1993	51,604	8,773	6,697	2,076	2,076	NA	33,566	27,622	5,945	NA	NA	NA	7,127	3,518	686	613	1,635	675	2,138	1,245	205	688		
1994	49,627	8,919	6,756	2,162	2,162	NA	31,155	26,254	4,901	NA	NA	NA	7,305	3,583	701	629	1,702	689	2,248	1,300	215	733		
1995	54,347	8,850	6,575	2,275	2,275	NA	35,737	31,537	4,201	NA	NA	NA	7,513	3,689	742	656	1,741	685	2,246	1,240	225	781		
1996	56,285	8,468	6,352	2,115	2,115	NA	37,823	33,077	4,746	NA	NA	NA	7,672	3,734	761	683	1,813	681	2,322	1,251	237	834		
1997	59,685	8,557	6,405	2,152	2,152	NA	41,571	38,176	3,394	NA	NA	NA	7,087	3,269	710	666	1,784	658	2,469	1,296	263	911		
1998	58,809	8,713	6,525	2,187	2,187	NA	40,843	37,505	3,338	NA	NA	NA	6,608	2,865	671	663	1,756	654	2,646	1,344	276	1,026		
1999	64,978	8,968	6,907	2,062	2,062	NA	45,760	42,242	3,518	NA	NA	NA	7,219	3,324	686	681	1,838	691	3,031	1,623	295	1,113		
2000	69,241	9,593	7,456	2,138	2,138	NA	47,841	44,566	3,275	NA	NA	NA	7,953	3,900	702	679	1,946	726	3,853	2,236	316	1,301		
2001	76,649	11,368	8,420	2,948	2,840	NA	52,549	48,247	4,302	NA	NA	NA	8,445	4,243	721	660	2,056	766	4,285	2,567	311	1,407		
2002	59,762	12,355	8,805	3,550	3,416	NA	33,553	30,669	2,883	NA	NA	NA	9,290	4,769	774	646	2,261	839	4,564	2,665	297	1,602		
2003	70,797	12,606	8,845	3,761	3,634	NA	43,044	37,887	5,157	NA	NA	NA	10,177	5,373	846	641	2,435	883	4,970	2,867	298	1,805		
2004	77,980	11,882	8,365	3,518	3,430	NA	50,979	45,621	5,358	NA	NA	NA	10,312	5,500	856	635	2,437	885	4,806	2,747	296	1,763		
2005	76,129	11,835	8,216	3,619	3,523	NA	49,228	43,479	5,750	NA	NA	NA	10,245	5,470	813	629	2,459	875	4,822	2,643	305	1,874		
2006	81,123	11,680	7,841	3,839	3,724	NA	53,972	47,496	6,476	NA	NA	NA	10,358	5,609	781	629	2,473	866	4,950	2,734	316	1,901		
2007	87,954	13,044	7,419	5,625	5,438	NA	59,145	49,955	9,190	NA	NA	NA	10,554	5,700	795	648	2,505	905	5,036	2,653	327	2,056		
2008	77,481	13,457	7,372	6,086	5,887	NA	47,220	35,651	5,438	2,837	3,118	177	11,426	6,191	853	707	2,679	995	5,206	2,620	332	2,254		
2009	75,187	14,063	7,874	6,189	5,979	NA	41,055	29,264	7,797	1,865	1,996	134	14,053	7,697	1,028	861	3,214	1,252	5,813	3,049	319	2,445		
2010	80,025	13,044	7,919	5,125	4,964	NA	44,364	34,491	4,648	2,229	2,785	211	16,540	9,261	1,158	961	3,701	1,459	5,836	3,004	317	2,515		
2011	81,417	12,826	7,767	5,059	4,895	NA	45,674	35,860	4,263	2,336	3,030	185	17,234	9,707	1,130	969	3,944	1,484	5,444	2,607	327	2,511		
2012	84,649	13,618	8,161	5,457	5,290	NA	48,239	36,963	3,932	3,171	4,001	173	17,232	9,447	1,077	993	4,190	1,525	5,337	2,498	329	2,510		

TABLE 4. U.S. applied research expenditures, by performing sector and source of funds: 1953–2015

Year	All performers	All federal	Federal intramural ^a	FFRDCs ^b		Nonfederal government ^c	Business ^d						Higher education ^e				Other nonprofit organizations ^f								
				Total	Federal		Total	Federal	Total	Total	Own domestic	Foreign	Other business	Other business	Other	Total	Federal	Nonfederal government	Business	Higher education	ONP	Total	Federal	Business	ONP
2013	84,415	14,151	7,770	6,381	6,208	NA	47,707	34,962	5,637	3,063	3,814	231	17,045	8,937	1,074	1,032	4,388	1,615	5,292	2,305	342	2,645			
2014 ^g	86,149	14,279	7,921	6,358	6,184	NA	49,146	35,221	5,930	3,064	4,669	262	17,061	8,582	1,083	1,092	4,587	1,717	5,442	2,321	354	2,767			
2015 ^h	87,729	14,482	7,910	6,572	6,403	NA	50,127	38,343	4,314	2,820	4,409	241	17,343	8,489	1,059	1,149	4,831	1,815	5,557	2,318	372	2,867			

NA = not available.

FFRDC = federally funded R&D center; ONP = other nonprofit organization.

^a See table 2, footnote a.

^b Type-of-R&D data for FFRDC R&D in 1953–54 include the R&D of only university-administered FFRDCs. Starting in 2001, type-of-R&D data distinguish federally funded from non-federally funded FFRDC R&D. (See also table 2, footnote b.)

^c Type-of-R&D data for state intramural R&D are not currently collected by the Survey of State Government R&D. (See also table 2, footnote c.)

^d 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.)

^e 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 table 2, footnote e.)

^f 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 table 2, footnote f.)

^g Some data for 2014 are preliminary and may later be revised.

^h The data for 2015 are estimates and will later be revised.

NOTES: Detail may not add to total due to 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 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. 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 the amount reported in the subsequent fiscal year.

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