

Table 9.8—COMPOSITION OF OUTLAYS FOR THE CONDUCT OF RESEARCH AND DEVELOPMENT: 1949–2004

(in millions of dollars)

Category	1949	1950	1951	1952	1953	1954	1955	1956	1957
National defense:									
Department of Defense	688	700	775	1,100	1,412	1,385	1,397	1,683	1,882
Other national defense	74	72	71	104	141	166	153	215	252
Total national defense	762	772	846	1,204	1,553	1,551	1,550	1,898	2,134
Nondefense:									
General science, space, and technology:									
NASA	42	43	44	51	50	48	43	50	55
NSF						4	8	15	28
Atomic energy general science	40	49	50	60	63	64	73	78	91
Subtotal	82	92	94	111	113	116	124	143	174
Energy	N/A	N/A	N/A	N/A	N/A	N/A	27	42	77
Transportation:									
DOT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	13
Subtotal	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	13
Health:									
NIH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Other	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Subtotal	N/A	N/A	N/A	N/A	45	51	69	81	134
Agriculture	N/A	N/A	N/A	N/A	49	53	62	82	86
Natural resources and environment	N/A	N/A	N/A	N/A	38	38	32	38	45
All other ¹	N/A	N/A	N/A	N/A	50	39	31	42	48
Total nondefense ¹	178	282	279	291	295	297	345	428	577
Total conduct of research and development ¹	940	1,054	1,125	1,495	1,848	1,848	1,895	2,326	2,711
Memorandum: Conduct of research and development classified as grants (all nondefense)	11	14	14	14	14	13	21	31	40

See footnotes at end of table.

Table 9.8—COMPOSITION OF OUTLAYS FOR THE CONDUCT OF RESEARCH AND DEVELOPMENT: 1949–2004—Continued

(in millions of dollars)

Category	1958	1959	1960	1961	1962	1963	1964	1965
National defense:								
Department of Defense	2,178	4,950	5,517	6,466	6,689	6,792	7,419	6,623
Other national defense	281	414	420	456	401	352	446	454
Total national defense	2,459	5,364	5,937	6,922	7,090	7,144	7,865	7,077
Nondefense:								
General science, space, and technology:								
NASA	72	115	330	646	1,112	2,291	3,693	4,497
NSF	31	47	57	70	84	100	147	147
Atomic energy general science	126	157	183	214	231	264	288	309
Subtotal	229	319	570	930	1,427	2,655	4,128	4,953
Energy	109	129	159	173	397	462	502	478
Transportation:								
DOT	26	53	77	89	83	111	107	159
NASA					31	36	40	58
Subtotal	26	53	77	89	114	147	147	217
Health:								
NIH	N/A	N/A	247	295	398	511	637	523
Other	N/A	N/A	30	35	36	40	66	67
Subtotal	157	216	277	330	434	551	703	590
Agriculture	97	104	107	117	129	142	154	179
Natural resources and environment	54	88	68	106	100	118	120	140
All other ¹	57	111	127	119	146	146	177	206
Total nondefense ¹	729	1,020	1,385	1,864	2,747	4,221	5,931	6,763
Total conduct of research and development ¹	3,188	6,384	7,322	8,786	9,837	11,365	13,796	13,840
Memorandum: Conduct of research and development classified as grants (all nondefense)	46	55	57	58	66	75	85	100

See footnotes at end of table.

Table 9.8—COMPOSITION OF OUTLAYS FOR THE CONDUCT OF RESEARCH AND DEVELOPMENT: 1949–2004—Continued

(in millions of dollars)

Category	1966	1967	1968	1969	1970	1971	1972	1973
National defense:								
Department of Defense	6,675	7,649	8,071	7,762	7,519	7,639	8,238	8,529
Other national defense	422	419	473	552	502	469	599	610
Total national defense	7,097	8,068	8,544	8,314	8,021	8,108	8,837	9,139
Nondefense:								
General science, space, and technology:								
NASA	5,275	5,042	4,462	4,025	3,518	3,143	3,059	3,045
NSF	176	209	248	280	292	334	407	432
Atomic energy general science	339	359	281	385	393	380	370	372
Subtotal	5,790	5,610	4,991	4,690	4,203	3,857	3,836	3,849
Energy	452	478	515	469	451	454	329	379
Transportation:								
DOT	117	69	107	96	224	444	291	299
NASA	75	89	128	162	183	205	221	235
Subtotal	192	158	235	258	407	649	512	534
Health:								
NIH	536	795	784	859	879	912	1,096	1,318
Other	202	110	199	214	194	211	279	341
Subtotal	738	905	983	1,073	1,073	1,123	1,375	1,659
Agriculture	205	215	231	232	246	268	296	293
Natural resources and environment	160	181	207	232	301	351	507	539
All other ¹	284	347	466	392	451	599	611	643
Total nondefense ¹	7,821	7,894	7,628	7,346	7,132	7,301	7,466	7,896
Total conduct of research and development ¹	14,918	15,962	16,172	15,660	15,153	15,409	16,303	17,035
Memorandum: Conduct of research and development classified as grants (all nondefense)	110	125	140	152	167	182	206	224

See footnotes at end of table.

Table 9.8—COMPOSITION OF OUTLAYS FOR THE CONDUCT OF RESEARCH AND DEVELOPMENT: 1949–2004—Continued

(in millions of dollars)

Category	1974	1975	1976	TQ	1977	1978	1979	1980
National defense:								
Department of Defense	8,960	9,284	9,341	2,312	10,210	10,726	11,045	13,469
Other national defense	446	431	478	143	664	1,351	1,083	1,174
Total national defense	9,406	9,715	9,819	2,455	10,874	12,077	12,129	14,643
Nondefense:								
General science, space, and technology:								
NASA	2,900	2,876	3,227	846	3,506	3,454	3,655	4,262
NSF	539	571	623	194	668	701	775	838
Atomic energy general science	292	310	257	72	267	274	305	345
Subtotal	3,731	3,757	4,107	1,112	4,441	4,429	4,735	5,445
Energy	525	933	1,424	521	2,197	2,542	3,304	3,289
Transportation:								
DOT	322	307	329	100	315	326	350	412
NASA	283	309	324	82	336	379	408	449
Subtotal	605	616	653	182	651	705	758	861
Health:								
NIH	1,413	1,631	2,098	548	1,314	2,439	2,626	2,898
Other	245	258	194	130	335	325	614	784
Subtotal	1,658	1,889	2,292	678	1,649	2,764	3,240	3,682
Agriculture	315	352	416	100	469	499	549	563
Natural resources and environment	511	647	646	166	585	675	895	951
All other ¹	683	627	631	-14	577	841	715	801
Total nondefense ¹	8,028	8,821	10,169	2,745	10,569	12,455	14,196	15,592
Total conduct of research and development ¹	17,434	18,536	19,988	5,200	21,443	24,532	26,325	30,235
Memorandum: Conduct of research and development classified as grants (all nondefense)	238	249	285	80	272	252	256	288

See footnotes at end of table.

Table 9.8—COMPOSITION OF OUTLAYS FOR THE CONDUCT OF RESEARCH AND DEVELOPMENT: 1949–2004—Continued

(in millions of dollars)

Category	1981	1982	1983	1984	1985	1986	1987	1988
National defense:								
Department of Defense	15,739	18,363	20,566	23,850	28,165	33,396	34,732	35,605
Other national defense	1,199	1,447	1,732	1,915	2,195	2,260	2,365	2,427
Total national defense	16,937	19,809	22,298	25,765	30,360	35,656	37,097	38,032
Nondefense:								
General science, space, and technology:								
NASA	4,798	2,697	1,999	3,023	2,410	2,863	2,693	3,252
NSF	900	1,020	998	1,127	1,182	1,399	1,426	1,513
Atomic energy general science	501	401	464	505	510	510	576	618
Subtotal	6,199	4,118	3,461	4,656	4,102	4,772	4,695	5,383
Energy	3,681	3,330	2,728	2,762	4,249	2,622	2,321	2,287
Transportation:								
DOT	409	341	270	342	467	489	347	323
NASA	481	523	539	515	559	568	557	580
Subtotal	890	864	809	857	1,027	1,057	905	903
Health:								
NIH	3,352	3,435	3,532	3,942	4,412	4,837	4,942	6,022
Other	732	906	929	617	719	738	869	849
Subtotal	4,084	4,341	4,461	4,560	5,131	5,574	5,811	6,872
Agriculture	643	696	717	754	775	798	796	838
Natural resources and environment	912	838	856	846	884	924	886	1,052
All other ¹	822	664	570	787	689	738	745	732
Total nondefense ¹	17,231	14,850	13,602	15,221	16,856	16,485	16,159	18,068
Total conduct of research and development ¹	34,168	34,660	35,900	40,986	47,216	52,141	53,256	56,100
Memorandum: Conduct of research and development classified as grants (all nondefense)	251	290	197	223	215	319	464	478

See footnotes at end of table.

Table 9.8—COMPOSITION OF OUTLAYS FOR THE CONDUCT OF RESEARCH AND DEVELOPMENT: 1949–2004—Continued

(in millions of dollars)

Category	1989	1990	1991	1992	1993	1994	1995	1996
National defense:								
Department of Defense	37,819	38,247	35,330	35,504	37,666	35,474	35,356	36,936
Other national defense	2,547	2,831	2,557	2,666	2,730	2,581	2,343	2,492
Total national defense	40,366	41,078	37,887	38,170	40,396	38,055	37,699	39,428
Nondefense:								
General science, space, and technology:								
NASA	4,220	5,624	6,277	6,641	7,004	6,663	8,243	6,963
NSF	1,570	1,520	1,631	1,733	1,753	1,873	1,894	2,077
Atomic energy general science	680	784	834	784	789	669	700	705
Subtotal	6,470	7,927	8,741	9,157	9,546	9,205	10,837	9,745
Energy	2,454	2,342	2,501	2,593	2,517	2,654	3,152	2,938
Transportation:								
DOT	322	272	333	373	420	519	604	534
NASA	755	701	795	976	1,084	1,215	749	1,120
Subtotal	1,077	973	1,127	1,348	1,504	1,734	1,353	1,654
Health:								
NIH	6,634	7,092	7,257	7,936	9,063	9,620	10,299	9,642
Other	912	1,162	1,272	1,721	1,311	1,008	961	856
Subtotal	7,546	8,253	8,528	9,656	10,374	10,628	11,260	10,498
Agriculture	908	937	990	1,070	1,129	1,158	1,186	1,168
Natural resources and environment	1,056	1,220	1,323	1,593	1,762	1,747	1,662	1,610
All other ¹	883	1,081	1,085	1,141	1,150	1,271	1,283	1,398
Total nondefense ¹	20,394	22,732	24,296	26,558	27,982	28,397	30,733	29,011
Total conduct of research and development ¹	60,760	63,810	62,183	64,728	68,378	66,453	68,432	68,439
Memorandum: Conduct of research and development classified as grants (all nondefense)	412	345	401	296	344	376	348	303

See footnotes at end of table.

Table 9.8—COMPOSITION OF OUTLAYS FOR THE CONDUCT OF RESEARCH AND DEVELOPMENT: 1949–2004—Continued

(in millions of dollars)

Category	1997	1998	1999	2000	2001	2002	2003 estimate	2004 estimate
National defense:								
Department of Defense	37,702	37,558	37,571	38,279	41,157	44,903	53,396	58,680
Other national defense	2,475	2,583	2,705	2,771	2,990	3,335	3,665	4,218
Total national defense	40,177	40,141	40,276	41,050	44,147	48,238	57,061	62,898
Nondefense:								
General science, space, and technology:								
NASA	8,137	8,631	8,316	5,411	5,611	5,816	6,523	7,349
NSF	2,015	2,010	2,144	2,446	2,566	2,803	3,221	3,398
Atomic energy general science	703	1,862	2,087	2,246	2,287	2,303	2,476	2,605
Subtotal	10,855	12,503	12,547	10,103	10,464	10,922	12,220	13,352
Energy	2,641	1,526	1,285	1,265	1,336	1,197	1,466	1,495
Transportation:								
DOT	545	528	465	482	514	605	627	789
NASA	1,237	1,250	1,117	958	862	956	976	976
Subtotal	1,782	1,778	1,582	1,440	1,376	1,561	1,603	1,765
Health:								
NIH	10,599	11,853	13,027	14,568	16,387	19,374	22,067	25,172
Other	859	865	1,306	1,310	1,804	1,802	1,934	2,025
Subtotal	11,458	12,718	14,333	15,878	18,191	21,176	24,001	27,197
Agriculture	1,178	1,200	1,200	1,294	1,519	1,508	1,616	1,589
Natural resources and environment	1,590	1,653	1,732	1,687	1,749	1,856	1,717	1,861
All other ¹	1,392	1,284	1,181	1,230	1,307	1,453	2,077	1,951
Total nondefense ¹	30,896	32,662	33,860	32,897	35,942	39,673	44,700	49,210
Total conduct of research and development ¹	71,073	72,803	74,136	73,947	80,089	87,911	101,761	112,108
Memorandum: Conduct of research and development classified as grants (all nondefense)	290	302	308	405	382	554	632	755

¹ Includes off-budget Postal Service amounts as shown in the footnote to Table 9.7.

N/A: Separate detail not available; however, the data are included in the totals.

Note: The Atomic energy defense component includes relatively small amounts of R&D for FEMA beginning in 1983.