

Table 9.8—COMPOSITION OF OUTLAYS FOR THE CONDUCT OF RESEARCH AND DEVELOPMENT: 1949–2009

(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:									
NASA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	.....
DOT and Other .....	.....	.....	.....	.....	.....	.....	.....	.....	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	N/A	N/A	N/A	N/A	50	39	31	42	48
Total nondefense	178	282	279	291	295	297	345	428	577
Total conduct of research and development	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 note at end of table.

Table 9.8—COMPOSITION OF OUTLAYS FOR THE CONDUCT OF RESEARCH AND DEVELOPMENT: 1949–2009—Continued

(in millions of dollars)

Category	1958	1959	1960	1961	1962	1963	1964	1965	1966
National defense:									
Department of Defense	2,178	4,950	5,517	6,466	6,689	6,792	7,419	6,623	6,675
Other national defense	281	414	420	456	401	352	446	454	422
Total national defense	2,459	5,364	5,937	6,922	7,090	7,144	7,865	7,077	7,097
Nondefense:									
General science, space, and technology:									
NASA	72	115	330	646	1,112	2,291	3,693	4,497	5,275
NSF	31	47	57	70	84	100	147	147	176
Atomic energy general science	126	157	183	214	231	264	288	309	339
Subtotal	229	319	570	930	1,427	2,655	4,128	4,953	5,790
Energy	109	129	159	173	397	462	502	478	452
Transportation:									
NASA					31	36	40	58	75
DOT and Other	26	53	77	89	83	111	107	159	117
Subtotal	26	53	77	89	114	147	147	217	192
Health:									
NIH	N/A	N/A	247	295	398	511	637	523	536
Other	N/A	N/A	30	35	36	40	66	67	202
Subtotal	157	216	277	330	434	551	703	590	738
Agriculture	97	104	107	117	129	142	154	179	205
Natural resources and environment	54	88	68	106	100	118	120	140	160
All other	57	111	127	119	146	146	177	206	284
Total nondefense	729	1,020	1,385	1,864	2,747	4,221	5,931	6,763	7,821
Total conduct of research and development	3,188	6,384	7,322	8,786	9,837	11,365	13,796	13,840	14,918
Memorandum: Conduct of research and development classified as grants (all nondefense)	46	55	57	58	66	75	85	100	110

See note at end of table.

Table 9.8—COMPOSITION OF OUTLAYS FOR THE CONDUCT OF RESEARCH AND DEVELOPMENT: 1949–2009—Continued

(in millions of dollars)

Category	1967	1968	1969	1970	1971	1972	1973	1974	1975
National defense:									
Department of Defense	7,649	8,071	7,762	7,519	7,639	8,238	8,529	8,960	9,284
Other national defense	419	473	552	502	469	599	610	446	431
Total national defense	8,068	8,544	8,314	8,021	8,108	8,837	9,139	9,406	9,715
Nondefense:									
General science, space, and technology:									
NASA	5,042	4,462	4,025	3,518	3,143	3,059	3,045	2,900	2,876
NSF	209	248	280	292	334	407	432	539	571
Atomic energy general science	359	281	385	393	380	370	372	292	310
Subtotal	5,610	4,991	4,690	4,203	3,857	3,836	3,849	3,731	3,757
Energy	478	515	469	451	454	329	379	525	933
Transportation:									
NASA	89	128	162	183	205	221	235	283	309
DOT and Other	69	107	96	224	444	291	299	322	307
Subtotal	158	235	258	407	649	512	534	605	616
Health:									
NIH	795	784	859	879	912	1,096	1,318	1,413	1,631
Other	110	199	214	194	211	279	341	245	258
Subtotal	905	983	1,073	1,073	1,123	1,375	1,659	1,658	1,889
Agriculture	215	231	232	246	268	296	293	315	352
Natural resources and environment	181	207	232	301	351	507	539	511	647
All other	347	466	392	451	599	611	643	683	627
Total nondefense	7,894	7,628	7,346	7,132	7,301	7,466	7,896	8,028	8,821
Total conduct of research and development	15,962	16,172	15,660	15,153	15,409	16,303	17,035	17,434	18,536
Memorandum: Conduct of research and development classified as grants (all nondefense)	125	140	152	167	182	206	224	238	249

See note at end of table.

Table 9.8—COMPOSITION OF OUTLAYS FOR THE CONDUCT OF RESEARCH AND DEVELOPMENT: 1949–2009—Continued

(in millions of dollars)

Category	1976	TQ	1977	1978	1979	1980	1981	1982	1983
National defense:									
Department of Defense	9,341	2,312	10,210	10,726	11,045	13,469	15,739	18,363	20,566
Other national defense	478	143	664	1,351	1,083	1,174	1,199	1,447	1,732
Total national defense	9,819	2,455	10,874	12,077	12,129	14,643	16,937	19,809	22,298
Nondefense:									
General science, space, and technology:									
NASA	3,227	846	3,506	3,454	3,655	4,262	4,798	2,697	1,999
NSF	623	194	668	701	775	838	900	1,020	998
Atomic energy general science	257	72	267	274	305	345	501	401	464
Subtotal	4,107	1,112	4,441	4,429	4,735	5,445	6,199	4,118	3,461
Energy	1,424	521	2,197	2,542	3,304	3,289	3,681	3,330	2,728
Transportation:									
NASA	324	82	336	379	408	449	481	523	539
DOT and Other	329	100	315	326	350	412	409	341	270
Subtotal	653	182	651	705	758	861	890	864	809
Health:									
NIH	2,098	548	1,314	2,439	2,626	2,898	3,352	3,435	3,532
Other	194	130	335	325	614	784	732	906	929
Subtotal	2,292	678	1,649	2,764	3,240	3,682	4,084	4,341	4,461
Agriculture	416	100	469	499	549	563	643	696	717
Natural resources and environment	646	166	585	675	895	951	912	838	856
All other	631	-14	577	841	715	801	822	664	570
Total nondefense	10,169	2,745	10,569	12,455	14,196	15,592	17,231	14,850	13,602
Total conduct of research and development	19,988	5,200	21,443	24,532	26,325	30,235	34,168	34,660	35,900
Memorandum: Conduct of research and development classified as grants (all nondefense)	285	80	272	252	256	288	251	290	197

See note at end of table.

Table 9.8—COMPOSITION OF OUTLAYS FOR THE CONDUCT OF RESEARCH AND DEVELOPMENT: 1949–2009—Continued

(in millions of dollars)

Category	1984	1985	1986	1987	1988	1989	1990	1991	1992
National defense:									
Department of Defense	23,850	28,165	33,396	34,732	35,605	37,819	38,247	35,330	35,504
Other national defense	1,915	2,195	2,260	2,365	2,427	2,547	2,831	2,557	2,666
Total national defense	25,765	30,360	35,656	37,097	38,032	40,366	41,078	37,887	38,170
Nondefense:									
General science, space, and technology:									
NASA	3,023	2,410	2,863	2,693	3,252	4,220	5,624	6,277	6,641
NSF	1,127	1,182	1,399	1,426	1,513	1,570	1,520	1,631	1,733
Atomic energy general science	505	510	510	576	618	680	784	834	784
Subtotal	4,656	4,102	4,772	4,695	5,383	6,470	7,927	8,741	9,157
Energy	2,762	4,249	2,622	2,321	2,287	2,454	2,342	2,501	2,593
Transportation:									
NASA	515	559	568	557	580	755	701	795	976
DOT and Other	342	467	489	347	323	322	272	333	373
Subtotal	857	1,027	1,057	905	903	1,077	973	1,127	1,348
Health:									
NIH	3,942	4,412	4,837	4,942	6,022	6,634	7,092	7,257	7,936
Other	617	719	738	869	849	912	1,162	1,272	1,721
Subtotal	4,560	5,131	5,574	5,811	6,872	7,546	8,253	8,528	9,656
Agriculture	754	775	798	796	838	908	937	990	1,070
Natural resources and environment	846	884	924	886	1,052	1,056	1,220	1,323	1,593
All other	787	689	738	745	732	883	1,081	1,085	1,141
Total nondefense	15,221	16,856	16,485	16,159	18,068	20,394	22,732	24,296	26,558
Total conduct of research and development	40,986	47,216	52,141	53,256	56,100	60,760	63,810	62,183	64,728
Memorandum: Conduct of research and development classified as grants (all nondefense)	223	215	319	464	478	412	345	401	296

See note at end of table.

Table 9.8—COMPOSITION OF OUTLAYS FOR THE CONDUCT OF RESEARCH AND DEVELOPMENT: 1949–2009—Continued

(in millions of dollars)

Category	1993	1994	1995	1996	1997	1998	1999	2000	2001
National defense:									
Department of Defense	37,666	35,474	35,356	36,936	37,702	37,558	37,571	38,279	41,157
Other national defense	2,730	2,581	2,343	2,492	2,475	2,583	2,705	2,771	2,990
Total national defense	40,396	38,055	37,699	39,428	40,177	40,141	40,276	41,050	44,147
Nondefense:									
General science, space, and technology:									
NASA	7,004	6,663	8,243	6,963	8,137	8,631	8,316	5,411	5,611
NSF	1,753	1,873	1,894	2,077	2,015	2,010	2,144	2,446	2,566
Atomic energy general science	789	669	700	705	703	1,862	2,087	2,246	2,287
Subtotal	9,546	9,205	10,837	9,745	10,855	12,503	12,547	10,103	10,464
Energy	2,517	2,654	3,152	2,938	2,641	1,526	1,285	1,265	1,336
Transportation:									
NASA	1,084	1,215	749	1,120	1,237	1,250	1,117	958	862
DOT and Other	420	519	604	534	545	528	465	482	514
Subtotal	1,504	1,734	1,353	1,654	1,782	1,778	1,582	1,440	1,376
Health:									
NIH	9,063	9,620	10,299	9,642	10,599	11,853	13,027	14,568	16,387
Other	1,311	1,008	961	856	859	865	1,306	1,310	1,804
Subtotal	10,374	10,628	11,260	10,498	11,458	12,718	14,333	15,878	18,191
Agriculture	1,129	1,158	1,186	1,168	1,178	1,200	1,200	1,294	1,519
Natural resources and environment	1,762	1,747	1,662	1,610	1,590	1,653	1,732	1,687	1,749
All other	1,150	1,271	1,283	1,398	1,392	1,284	1,181	1,230	1,307
Total nondefense	27,982	28,397	30,733	29,011	30,896	32,662	33,860	32,897	35,942
Total conduct of research and development	68,378	66,453	68,432	68,439	71,073	72,803	74,136	73,947	80,089
Memorandum: Conduct of research and development classified as grants (all nondefense)	344	376	348	303	290	302	308	405	382

See note at end of table.

Table 9.8—COMPOSITION OF OUTLAYS FOR THE CONDUCT OF RESEARCH AND DEVELOPMENT: 1949–2009—Continued

(in millions of dollars)

Category	2002	2003	2004	2005	2006	2007	2008 estimate	2009 estimate
National defense:								
Department of Defense	44,903	53,778	61,510	66,467	69,323	73,716	75,240	79,084
Other national defense	3,335	3,550	3,835	4,179	3,720	3,362	3,439	3,590
Total national defense	48,238	57,328	65,345	70,646	73,043	77,078	78,679	82,674
Nondefense:								
General science, space, and technology:								
NASA	5,816	6,002	8,037	6,880	6,807	8,508	9,408	9,597
NSF	2,803	3,235	3,439	3,638	3,707	3,569	4,005	4,156
Atomic energy general science	2,298	2,480	2,701	2,809	2,966	3,114	3,202	3,533
Subtotal	10,917	11,717	14,177	13,327	13,480	15,191	16,615	17,286
Energy	1,197	1,325	1,387	1,272	1,156	1,249	2,449	2,588
Transportation:								
NASA	956	1,663	551	834	722	614	608	560
DOT and Other	621	634	571	472	588	775	830	817
Subtotal	1,577	2,297	1,122	1,306	1,310	1,389	1,438	1,377
Health:								
NIH	19,374	21,835	24,498	26,039	26,695	27,058	27,688	28,371
Other	1,802	1,817	1,726	1,541	1,570	1,797	1,506	1,571
Subtotal	21,176	23,652	26,224	27,580	28,265	28,855	29,194	29,942
Agriculture	1,493	1,628	1,694	1,758	1,779	1,765	1,794	1,748
Natural resources and environment	1,856	1,919	1,612	1,878	1,529	1,657	1,721	1,740
All other	1,457	1,574	1,818	2,079	2,233	2,505	2,668	2,589
Total nondefense	39,673	44,112	48,034	49,200	49,752	52,611	55,879	57,270
Total conduct of research and development	87,911	101,440	113,379	119,846	122,795	129,689	134,558	139,944
Memorandum: Conduct of research and development classified as grants (all nondefense)	554	570	596	486	441	593	601	570

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.