

Table 9.8—COMPOSITION OF OUTLAYS FOR THE CONDUCT OF RESEARCH AND DEVELOPMENT: 1949–2000

(in millions of dollars)

Category	1949	1950	1951	1952	1953	1954	1955	1956	1957
<b>National defense:</b>									
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
<b>Total national defense .....</b>	<b>762</b>	<b>772</b>	<b>846</b>	<b>1,204</b>	<b>1,553</b>	<b>1,551</b>	<b>1,550</b>	<b>1,898</b>	<b>2,134</b>
<b>Nondefense:</b>									
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 <sup>1</sup> .....	N/A	N/A	N/A	N/A	50	39	31	42	48
<b>Total nondefense <sup>1</sup> .....</b>	<b>178</b>	<b>282</b>	<b>279</b>	<b>291</b>	<b>295</b>	<b>297</b>	<b>345</b>	<b>428</b>	<b>577</b>
<b>Total conduct of research and development <sup>1</sup> .....</b>	<b>940</b>	<b>1,054</b>	<b>1,125</b>	<b>1,495</b>	<b>1,848</b>	<b>1,848</b>	<b>1,895</b>	<b>2,326</b>	<b>2,711</b>
<b>Memorandum: Conduct of research and development classified as grants (all nondefense) .....</b>	<b>11</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>13</b>	<b>21</b>	<b>31</b>	<b>40</b>

See footnotes at end of table.

Table 9.8—COMPOSITION OF OUTLAYS FOR THE CONDUCT OF RESEARCH AND DEVELOPMENT: 1949–2000—Continued

(in millions of dollars)

Category	1958	1959	1960	1961	1962	1963	1964	1965	1966
<b>National defense:</b>									
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
<b>Total national defense .....</b>	<b>2,459</b>	<b>5,364</b>	<b>5,937</b>	<b>6,922</b>	<b>7,090</b>	<b>7,144</b>	<b>7,865</b>	<b>7,077</b>	<b>7,097</b>
<b>Nondefense:</b>									
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:									
DOT .....	26	53	77	89	83	111	107	159	117
NASA .....					31	36	40	58	75
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 <sup>1</sup> .....	57	111	127	119	146	146	177	206	284
<b>Total nondefense <sup>1</sup> .....</b>	<b>729</b>	<b>1,020</b>	<b>1,385</b>	<b>1,864</b>	<b>2,747</b>	<b>4,221</b>	<b>5,931</b>	<b>6,763</b>	<b>7,821</b>
<b>Total conduct of research and development <sup>1</sup> .....</b>	<b>3,188</b>	<b>6,384</b>	<b>7,322</b>	<b>8,786</b>	<b>9,837</b>	<b>11,365</b>	<b>13,796</b>	<b>13,840</b>	<b>14,918</b>
<b>Memorandum: Conduct of research and development classified as grants (all nondefense) .....</b>	<b>46</b>	<b>55</b>	<b>57</b>	<b>58</b>	<b>66</b>	<b>75</b>	<b>85</b>	<b>100</b>	<b>110</b>

See footnotes at end of table.

Table 9.8—COMPOSITION OF OUTLAYS FOR THE CONDUCT OF RESEARCH AND DEVELOPMENT: 1949–2000—Continued

(in millions of dollars)

Category	1967	1968	1969	1970	1971	1972	1973	1974	1975
<b>National defense:</b>									
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
<b>Total national defense .....</b>	<b>8,068</b>	<b>8,544</b>	<b>8,314</b>	<b>8,021</b>	<b>8,108</b>	<b>8,837</b>	<b>9,139</b>	<b>9,406</b>	<b>9,715</b>
<b>Nondefense:</b>									
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:									
DOT .....	69	107	96	224	444	291	299	322	307
NASA .....	89	128	162	183	205	221	235	283	309
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 <sup>1</sup> .....	347	466	392	451	599	611	643	683	627
<b>Total nondefense <sup>1</sup> .....</b>	<b>7,894</b>	<b>7,628</b>	<b>7,346</b>	<b>7,132</b>	<b>7,301</b>	<b>7,466</b>	<b>7,896</b>	<b>8,028</b>	<b>8,821</b>
<b>Total conduct of research and development <sup>1</sup> .....</b>	<b>15,962</b>	<b>16,172</b>	<b>15,660</b>	<b>15,153</b>	<b>15,409</b>	<b>16,303</b>	<b>17,035</b>	<b>17,434</b>	<b>18,536</b>
<b>Memorandum: Conduct of research and development classified as grants (all nondefense) .....</b>	<b>125</b>	<b>140</b>	<b>152</b>	<b>167</b>	<b>182</b>	<b>206</b>	<b>224</b>	<b>238</b>	<b>249</b>

See footnotes at end of table.

Table 9.8—COMPOSITION OF OUTLAYS FOR THE CONDUCT OF RESEARCH AND DEVELOPMENT: 1949–2000—Continued

(in millions of dollars)

Category	1976	TQ	1977	1978	1979	1980	1981	1982	1983
<b>National defense:</b>									
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
<b>Total national defense .....</b>	<b>9,819</b>	<b>2,455</b>	<b>10,874</b>	<b>12,077</b>	<b>12,129</b>	<b>14,643</b>	<b>16,937</b>	<b>19,809</b>	<b>22,298</b>
<b>Nondefense:</b>									
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:									
DOT .....	329	100	315	326	350	412	409	341	270
NASA .....	324	82	336	379	408	449	481	523	539
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 <sup>1</sup> .....	631	-14	577	841	715	801	822	664	570
<b>Total nondefense <sup>1</sup> .....</b>	<b>10,169</b>	<b>2,745</b>	<b>10,569</b>	<b>12,455</b>	<b>14,196</b>	<b>15,592</b>	<b>17,231</b>	<b>14,850</b>	<b>13,602</b>
<b>Total conduct of research and development <sup>1</sup> .....</b>	<b>19,988</b>	<b>5,200</b>	<b>21,443</b>	<b>24,532</b>	<b>26,325</b>	<b>30,235</b>	<b>34,168</b>	<b>34,660</b>	<b>35,900</b>
<b>Memorandum: Conduct of research and development classified as grants (all nondefense) .....</b>	<b>285</b>	<b>80</b>	<b>272</b>	<b>252</b>	<b>256</b>	<b>288</b>	<b>251</b>	<b>290</b>	<b>197</b>

See footnotes at end of table.

Table 9.8—COMPOSITION OF OUTLAYS FOR THE CONDUCT OF RESEARCH AND DEVELOPMENT: 1949–2000—Continued

(in millions of dollars)

Category	1984	1985	1986	1987	1988	1989	1990	1991	1992
<b>National defense:</b>									
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
<b>Total national defense .....</b>	<b>25,765</b>	<b>30,360</b>	<b>35,656</b>	<b>37,097</b>	<b>38,032</b>	<b>40,366</b>	<b>41,078</b>	<b>37,887</b>	<b>38,170</b>
<b>Nondefense:</b>									
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:									
DOT .....	342	467	489	347	323	322	272	333	373
NASA .....	515	559	568	557	580	755	701	795	976
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 <sup>1</sup> .....	787	689	738	745	732	883	1,081	1,085	1,141
<b>Total nondefense <sup>1</sup> .....</b>	<b>15,221</b>	<b>16,856</b>	<b>16,485</b>	<b>16,159</b>	<b>18,068</b>	<b>20,394</b>	<b>22,732</b>	<b>24,296</b>	<b>26,558</b>
<b>Total conduct of research and development <sup>1</sup> .....</b>	<b>40,986</b>	<b>47,216</b>	<b>52,141</b>	<b>53,256</b>	<b>56,100</b>	<b>60,760</b>	<b>63,810</b>	<b>62,183</b>	<b>64,728</b>
<b>Memorandum: Conduct of research and development classified as grants (all nondefense) .....</b>	<b>223</b>	<b>215</b>	<b>319</b>	<b>464</b>	<b>478</b>	<b>412</b>	<b>345</b>	<b>401</b>	<b>296</b>

See footnotes at end of table.

Table 9.8—COMPOSITION OF OUTLAYS FOR THE CONDUCT OF RESEARCH AND DEVELOPMENT: 1949–2000—Continued

(in millions of dollars)

Category	1993	1994	1995	1996	1997	1998	1999 estimate	2000 estimate
<b>National defense:</b>								
Department of Defense .....	37,666	35,474	35,356	36,936	37,702	37,558	36,875	34,723
Other national defense .....	2,730	2,581	2,343	2,492	2,475	2,583	2,737	2,939
<b>Total national defense</b> .....	<b>40,396</b>	<b>38,055</b>	<b>37,699</b>	<b>39,428</b>	<b>40,177</b>	<b>40,141</b>	<b>39,612</b>	<b>37,662</b>
<b>Nondefense:</b>								
General science, space, and technology:								
NASA .....	7,004	6,663	8,243	6,963	8,137	8,631	8,475	8,201
NSF .....	1,753	1,873	1,894	2,077	2,015	2,010	2,125	2,437
Atomic energy general science .....	789	669	700	705	703	1,862	2,258	2,269
Subtotal .....	9,546	9,205	10,837	9,745	10,855	12,503	12,858	12,907
Energy .....	2,517	2,654	3,152	2,938	2,641	1,526	1,368	1,365
Transportation:								
DOT .....	420	519	604	534	545	528	501	644
NASA .....	1,084	1,215	749	1,120	1,237	1,250	1,198	1,054
Subtotal .....	1,504	1,734	1,353	1,654	1,782	1,778	1,699	1,698
Health:								
NIH .....	9,063	9,620	10,299	9,642	10,599	11,853	13,213	14,600
Other .....	1,311	1,008	961	856	859	865	995	1,085
Subtotal .....	10,374	10,628	11,260	10,498	11,458	12,718	14,208	15,685
Agriculture .....	1,129	1,158	1,186	1,168	1,178	1,200	1,309	1,336
Natural resources and environment .....	1,762	1,747	1,662	1,610	1,590	1,653	1,785	1,767
All other <sup>1</sup> .....	1,150	1,271	1,283	1,398	1,392	1,284	1,317	1,184
<b>Total nondefense</b> <sup>1</sup> .....	<b>27,982</b>	<b>28,397</b>	<b>30,733</b>	<b>29,011</b>	<b>30,896</b>	<b>32,662</b>	<b>34,544</b>	<b>35,942</b>
<b>Total conduct of research and development</b> <sup>1</sup> .....	<b>68,378</b>	<b>66,453</b>	<b>68,432</b>	<b>68,439</b>	<b>71,073</b>	<b>72,803</b>	<b>74,156</b>	<b>73,604</b>
<b>Memorandum: Conduct of research and development classified as grants (all nondefense)</b> .....	<b>344</b>	<b>376</b>	<b>348</b>	<b>303</b>	<b>290</b>	<b>302</b>	<b>331</b>	<b>402</b>

<sup>1</sup> 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&amp;D for FEMA beginning in 1983.