

Appendix table 4-24

R&D expenditure, by state, performing sector, and source of funds: 1987–2000

(Thousands of current dollars)

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State	Performing sector:		Industry				U&C						U&C	Other	Nonprofit
	Funding sector:	Total R&D	Federal	Total ^a	Federal ^a	Industry ^b	Total	Federal	Non-Federal	Industry	U&Cs	Nonprofit	Federal ^c	Federal ^d	Federal ^d
Alabama															
1987		2,349,977	584,230	1,592,000	900,000	692,000	152,925	85,382	16,449	10,916	29,919	10,259	0	20,822	0
1989		1,232,429	568,243	428,000	213,000	215,000	215,836	119,693	18,339	16,242	45,106	16,456	0	20,350	0
1991		1,510,827	700,617	521,000	221,000	300,000	252,998	132,063	27,267	20,348	52,667	20,653	0	36,212	0
1993		1,967,533	833,137	833,000	406,000	427,000	281,209	161,331	26,991	23,729	48,358	20,800	0	20,187	0
1995		1,680,828	642,257	686,000	273,000	413,000	334,689	190,330	6,991	29,164	86,664	21,540	0	17,882	0
1997		1,636,645	660,047	589,000	189,000	399,000	368,602	230,894	5,251	29,685	84,747	18,025	0	18,996	0
1998		1,926,127	752,619	707,000	180,000	527,000	442,196	282,113	7,238	30,279	82,308	40,258	0	24,312	0
1999		1,761,474	771,923	556,000	190,000	365,000	416,594	261,752	8,923	22,287	79,251	44,381	0	16,957	0
2000		1,730,117	664,981	607,000	184,000	423,000	428,122	275,912	6,052	19,581	88,167	38,410	0	30,014	0
Alaska															
1987		90,429	32,840	10,000	D	D	47,432	21,523	2,999	3,024	17,960	1,926	0	157	0
1989		117,914	51,178	9,000	D	D	56,701	26,659	2,101	3,039	21,869	3,033	0	1,035	0
1991		146,091	58,705	18,000	D	D	67,432	34,335	1,926	1,547	28,246	1,378	0	1,954	0
1993		129,211	47,833	14,000	D	D	66,796	41,616	3,012	4,751	17,412	5	0	582	0
1995		163,396	60,545	30,000	D	D	72,216	37,285	5,607	5,470	23,850	4	0	635	0
1997		135,745	38,381	24,000	D	D	70,943	28,127	3,964	12,769	26,082	1	0	2,421	0
1998		NA	44,010	D	D	9,000	75,854	31,632	3,691	16,116	24,382	33	0	3,707	0
1999		151,979	53,287	D	D	3,000	93,687	37,241	4,109	19,720	32,299	318	0	2,005	0
2000		196,448	75,446	9,000	D	D	107,417	49,241	3,469	20,073	34,328	306	0	4,585	0
Arizona															
1987		1,144,281	83,236	845,000	178,000	667,000	181,263	80,955	8,965	17,456	61,644	12,243	26,000	8,782	0
1989		1,293,340	118,284	917,000	220,000	697,000	223,834	105,367	7,949	12,500	86,076	11,942	27,600	6,622	0
1991		1,398,709	132,341	944,000	199,000	745,000	284,128	131,627	7,945	19,519	109,028	16,009	27,400	10,840	0
1993		1,607,378	206,067	1,042,000	298,000	744,000	310,721	149,803	6,333	18,889	112,596	23,100	40,000	8,590	0
1995		1,957,119	169,700	1,356,000	620,000	736,000	380,216	210,475	8,080	23,238	126,380	12,043	45,005	6,198	0
1997		2,409,843	143,601	1,854,000	677,000	1,177,000	376,818	198,097	10,266	18,584	137,165	12,706	29,058	6,366	0
1998		2,317,552	138,493	1,727,000	490,000	1,237,000	405,999	210,170	11,812	22,125	146,586	15,306	38,283	7,777	0
1999		5,090,944	170,099	4,434,000	224,000	4,210,000	439,286	239,142	11,753	22,242	150,366	15,783	37,308	10,251	0
2000		3,107,291	145,601	2,445,000	153,000	2,292,000	465,777	244,938	15,221	28,519	158,810	18,289	36,409	14,504	0
Arkansas															
1987		195,660	24,196	135,000	D	D	35,529	12,257	9,352	2,829	8,028	3,063	0	935	0
1989		120,875	25,071	51,000	D	D	43,676	14,213	12,186	4,123	9,521	3,633	0	1,128	0
1991		198,271	35,180	106,000	D	D	55,081	20,178	13,958	4,514	12,945	3,486	0	2,010	0
1993		301,143	40,657	185,000	D	D	74,011	25,362	23,666	6,767	14,774	3,442	0	1,475	0
1995		329,500	57,563	181,000	D	D	87,799	33,348	23,779	7,693	19,717	3,262	0	3,138	0
1997		271,703	49,469	118,000	D	D	102,204	35,021	29,227	7,570	23,985	6,401	0	2,030	0
1998		283,161	45,895	118,000	D	D	116,778	41,204	33,154	8,246	26,994	7,180	0	2,488	0
1999		378,033	46,122	216,000	3,000	213,000	111,999	45,587	32,543	10,286	16,437	7,146	0	3,912	0
2000		454,401	45,489	273,000	D	D	130,894	58,302	35,076	8,121	22,110	7,285	0	5,018	0

Appendix table 4-24

R&D expenditure, by state, performing sector, and source of funds: 1987–2000

(Thousands of current dollars)

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State	Performing sector:		Industry				U&C						U&C	Other	Nonprofit
	Funding sector:	Total R&D	Federal	Total ^a	Federal ^a	Industry ^b	Total	Federal	Non-Federal	Industry	U&Cs	Nonprofit	Federal ^c	Federal ^d	Federal ^d
California															
1987		25,520,939	2,011,033	19,475,000	10,963,000	8,512,000	1,554,787	1,066,099	36,570	72,260	289,604	90,254	2,097,000	383,119	0
1989		30,885,676	2,478,100	23,675,000	12,857,000	10,818,000	1,850,062	1,285,165	43,546	83,218	321,615	116,518	2,385,300	252,148	245,066
1991		28,346,287	1,885,275	21,279,000	8,911,000	12,368,000	2,146,235	1,436,542	84,176	86,265	389,156	150,096	2,562,800	326,127	146,850
1993		33,721,294	1,785,138	26,541,000	7,463,000	19,078,000	2,380,144	1,629,545	112,454	99,291	367,857	170,997	2,499,000	338,161	177,851
1995		36,035,609	1,843,729	28,710,000	6,925,000	21,785,000	2,594,280	1,796,691	107,055	120,080	372,941	197,513	2,377,815	361,960	147,825
1997		41,669,723	1,454,133	34,011,000	5,977,000	28,034,000	2,978,575	2,028,296	128,617	160,304	439,942	221,416	2,549,108	473,915	202,992
1998		43,919,295	1,595,270	35,568,000	3,803,000	31,764,000	3,344,740	2,008,924	146,021	213,137	702,175	274,483	2,770,950	519,452	120,883
1999		47,965,435	1,749,647	39,047,000	4,042,000	35,006,000	3,658,622	2,179,077	185,716	249,043	729,128	315,658	2,800,035	577,895	132,236
2000		55,092,936	1,655,628	45,769,000	4,229,000	41,540,000	4,053,042	2,335,093	235,796	294,990	820,953	366,210	2,812,134	660,758	142,374
Colorado															
1987		1,704,333	132,807	1,261,000	282,000	979,000	185,699	136,003	8,771	8,728	17,682	14,515	52,000	72,827	0
1989		1,648,885	116,787	1,162,000	251,000	911,000	226,555	167,043	10,679	14,381	17,735	16,717	63,300	29,354	50,889
1991		NA	275,312	D	D	1,751,000	260,587	187,819	12,905	16,481	23,078	20,304	78,300	33,718	72,558
1993		2,864,058	169,821	2,111,000	252,000	1,859,000	331,081	222,107	18,026	23,651	41,797	25,500	99,000	41,852	111,304
1995		2,700,684	167,869	1,865,000	274,000	1,591,000	393,809	260,247	21,998	24,470	51,690	35,404	125,310	46,418	102,278
1997		3,205,211	195,364	2,248,000	525,000	1,723,000	427,435	289,514	26,833	23,756	50,422	36,910	135,980	50,078	148,354
1998		4,565,357	202,224	3,565,000	1,237,000	2,329,000	489,419	332,402	26,136	26,818	68,164	35,899	130,865	54,822	123,027
1999		4,209,085	238,003	3,136,000	D	D	507,673	361,598	24,992	27,226	60,743	33,114	132,587	61,389	133,433
2000		4,229,501	241,771	3,140,000	D	D	544,204	427,495	24,000	24,031	53,711	14,967	115,510	64,970	123,046
Connecticut															
1987		2,471,219	17,719	2,216,000	632,000	1,584,000	230,790	155,717	2,495	9,298	39,761	23,519	0	6,710	0
1989		2,744,751	37,810	2,410,000	680,000	1,730,000	284,410	187,212	5,430	11,630	56,999	23,139	0	12,531	0
1991		1,917,105	46,602	1,535,000	504,000	1,031,000	320,935	197,120	5,996	16,121	73,778	27,920	0	14,568	0
1993		2,808,827	52,905	2,373,000	419,000	1,954,000	364,708	220,562	10,067	18,351	80,829	34,899	0	18,214	0
1995		4,310,652	17,690	3,906,000	389,000	3,517,000	377,225	227,915	18,732	20,327	78,243	32,008	0	9,737	0
1997		3,454,151	32,731	3,014,000	307,000	2,707,000	392,668	242,385	13,730	25,387	76,391	34,775	0	14,752	0
1998		3,558,775	18,257	3,113,000	179,000	2,935,000	403,961	262,488	13,289	25,926	67,005	35,253	0	23,557	0
1999		4,436,224	17,883	3,984,000	207,000	3,777,000	418,122	273,787	10,827	26,026	66,997	40,485	0	16,219	0
2000		4,888,469	19,373	4,371,000	127,000	4,244,000	468,435	304,155	15,539	28,327	74,534	45,880	0	29,661	0
Delaware															
1987		NA	2,874	D	D	D	31,681	13,662	1,995	3,659	10,117	2,248	0	2,647	0
1989		NA	3,133	D	D	D	37,194	17,083	2,603	4,073	11,125	2,310	0	2,110	0
1991		NA	8,605	D	D	D	44,696	20,053	4,024	4,732	12,724	3,163	0	2,883	0
1993		1,248,672	12,053	1,181,000	24,000	1,157,000	52,627	26,170	3,710	4,857	13,937	3,953	0	2,992	0
1995		1,148,632	15,477	1,077,000	12,000	1,065,000	53,161	27,352	2,144	3,681	14,560	5,424	0	2,994	0
1997		1,088,697	10,207	1,009,000	8,000	1,001,000	65,095	32,031	2,977	3,361	20,125	6,601	0	4,395	0
1998		2,555,543	3,722	2,476,000	13,000	2,463,000	72,779	36,422	4,701	3,867	19,244	8,545	0	3,042	0
1999		1,342,913	2,747	1,261,000	9,000	1,252,000	76,286	36,683	5,401	4,246	19,715	10,241	0	2,880	0
2000		1,532,130	7,598	1,444,000	7,000	1,437,000	78,126	40,768	4,142	3,878	19,562	9,776	0	2,406	0

R&D expenditure, by state, performing sector, and source of funds: 1987–2000

(Thousands of current dollars)

State	Performing sector:		Industry				U&C						U&C	Other	Nonprofit
	Funding sector:	Total R&D	Federal	Total ^a	Federal ^a	Industry ^b	Total	Federal	Non-Federal	Industry	U&Cs	Nonprofit	Federal ^c	Federal ^d	Federal ^d
District of Columbia															
1987	NA	1,208,569		D	D	D	85,470	62,968	484	4,192	11,642	6,184	0	100,959	0
1989	NA	1,521,715		D	D	23,000	111,325	84,274	480	7,924	13,022	5,625	0	136,744	0
1991	1,736,670	1,432,998	40,000	16,000	24,000	118,398	86,793	463	7,279	12,718	11,145	0	0	145,274	0
1993	2,543,172	1,712,811	540,000	21,000	519,000	145,218	100,345	1,038	10,313	18,346	15,176	0	0	144,543	600
1995	3,128,187	2,106,208	672,000	17,000	656,000	181,461	132,770	814	13,297	19,937	14,643	0	0	168,518	0
1997	2,767,902	1,732,539	645,000		D	214,019	153,846	1,267	18,381	24,092	16,433	0	0	175,954	390
1998	2,606,128	1,717,704	503,000	90,000	413,000	232,922	165,715	2,042	19,481	26,442	19,242	0	0	150,383	2,119
1999	2,509,737	1,912,131	171,000	52,000	119,000	223,786	173,466	3,117	14,349	13,110	19,744	0	0	202,661	159
2000	2,296,233	1,722,640	112,000	46,000	67,000	245,828	186,632	3,826	16,286	15,480	23,604	0	0	210,844	4,921
Florida															
1987	3,136,347	719,058	2,133,000	892,000	1,241,000	278,847	129,474	13,889	20,334	98,188	16,962	0	0	5,442	0
1989	3,374,947	642,074	2,341,000	1,167,000	1,174,000	385,556	200,742	25,655	20,660	112,906	25,593	0	0	6,317	0
1991	3,699,966	657,605	2,599,000	934,000	1,665,000	438,054	220,683	36,736	35,690	116,339	28,606	0	0	5,307	0
1993	3,525,284	607,692	2,425,000	970,000	1,455,000	488,551	267,717	31,641	40,565	119,937	28,691	0	0	4,041	0
1995	5,222,709	554,440	4,101,000	1,634,000	2,467,000	559,104	317,081	41,466	36,382	135,110	29,065	0	0	8,165	0
1997	4,783,893	649,376	3,442,000	1,461,000	1,981,000	681,508	333,828	89,003	48,304	176,142	34,231	0	0	11,009	0
1998	4,773,060	749,648	3,300,000	889,000	2,411,000	712,704	355,892	80,720	51,772	184,475	39,845	0	0	10,708	0
1999	4,265,345	763,344	2,697,000	706,000	1,991,000	788,743	396,395	91,371	63,637	198,479	38,861	0	0	16,258	0
2000	4,662,727	573,140	3,212,000	498,000	2,714,000	851,932	408,826	103,167	78,906	220,827	40,206	0	0	25,655	0
Georgia															
1987	1,430,455	96,266	1,001,000		D	D	331,000	151,367	39,621	34,196	95,827	9,989	0	2,189	0
1989	1,309,760	157,925	719,000		D	D	424,424	210,248	40,141	35,635	126,231	12,169	0	8,411	0
1991	1,478,861	121,008	868,000	89,000	779,000	484,019	238,664	43,222	40,010	149,645	12,478	0	0	5,834	0
1993	1,577,360	159,002	860,000	63,000	797,000	546,960	273,079	39,325	51,968	167,509	15,079	0	0	11,398	0
1995	2,112,474	272,178	1,175,000	142,000	1,031,000	657,530	302,390	53,611	55,018	221,785	24,726	0	0	7,766	0
1997	2,271,517	225,150	1,273,000	212,000	1,062,000	766,346	347,407	68,844	73,284	252,398	24,413	0	0	7,021	0
1998	2,491,906	235,596	1,444,000	86,000	1,358,000	802,023	369,764	70,019	86,040	246,086	30,114	0	0	10,287	0
1999	2,959,809	278,552	1,827,000	178,000	1,649,000	839,715	380,202	74,085	90,747	258,402	36,279	0	0	14,542	0
2000	2,796,192	273,713	1,579,000	83,000	1,496,000	926,749	417,664	76,857	94,341	299,214	38,673	0	0	16,730	0
Hawaii															
1987	158,274	23,218	73,000	54,000	19,000	57,345	34,472	19,317	261	2,591	704	0	0	4,711	0
1989	123,204	36,400	9,000	2,000	7,000	70,733	40,574	24,759	799	3,686	915	0	0	7,071	0
1991	144,656	44,537	11,000		D	D	78,166	44,857	27,321	856	3,391	1,741	0	10,953	0
1993	380,150	41,703	255,000		D	D	73,961	41,362	27,099	151	3,109	2,240	0	9,486	0
1995	169,252	62,303	14,000		D	D	78,429	44,238	26,789	299	3,738	3,365	0	14,520	0
1997	274,632	54,318	87,000	55,000	32,000	120,107	72,421	28,440	5,944	13,297	5	0	0	13,207	0
1998	241,560	54,776	17,000		D	D	148,007	86,886	37,002	10,949	13,170	0	0	21,777	0
1999	270,239	64,534	27,000	1,000	26,000	156,810	93,418	35,111	13,021	15,260	0	0	0	21,895	0
2000	291,409	58,658	44,000	17,000	27,000	161,300	95,419	35,474	11,158	19,249	0	0	0	27,451	0

Appendix table 4-24

R&D expenditure, by state, performing sector, and source of funds: 1987–2000

(Thousands of current dollars)

State	Performing sector:		Industry				U&C						U&C	Other	Nonprofit
	Funding sector:	Total R&D	Federal	Total ^a	Federal ^a	Industry ^b	Total	Federal	Non-Federal	Industry	U&Cs	Nonprofit	FFRDCs	nonprofit institutions	FFRDCs
Idaho															
1987		528,396	15,342	488,000	386,000	102,000	24,779	8,988	8,314	2,899	4,436	142	0	275	0
1989		NA	18,785	D	D	161,000	33,191	12,585	8,112	4,199	8,148	147	0	531	0
1991		NA	36,666	D	D	D	41,437	15,681	8,604	5,050	11,697	405	0	777	0
1993		477,563	37,396	391,000	D	D	48,774	17,026	12,550	7,286	11,068	844	0	393	0
1995		913,961	27,792	827,000	D	D	58,621	19,710	13,615	7,408	16,350	1,538	0	548	0
1997		1,269,685	24,092	1,181,000	D	D	64,278	18,103	21,752	9,151	14,802	470	0	315	0
1998		1,126,774	25,042	1,028,000	D	D	72,395	25,444	21,760	8,059	16,334	798	0	1,337	0
1999		1,309,401	27,448	1,210,000	D	D	71,674	28,116	15,718	3,962	16,877	7,001	0	279	0
2000		1,433,567	21,722	1,338,000	D	D	73,726	28,888	18,545	5,338	17,505	3,450	0	119	0
Illinois															
1987		5,337,890	72,532	4,284,000	940,000	3,344,000	498,221	293,929	30,610	23,791	117,826	32,065	444,000	39,137	0
1989		5,305,752	59,321	4,050,000	D	D	602,558	338,082	33,881	38,990	150,694	40,911	528,400	65,473	0
1991		6,413,236	68,151	5,027,000	190,000	4,837,000	697,565	361,461	52,573	49,583	177,424	56,524	573,500	47,020	0
1993		6,777,207	83,136	5,242,000	236,000	5,006,000	757,508	424,745	45,716	44,745	178,026	64,276	649,000	45,563	0
1995		7,482,753	80,626	5,776,000	146,000	5,630,000	817,640	467,952	46,903	43,048	195,052	64,685	767,071	41,416	0
1997		8,033,737	77,224	6,248,000	163,000	6,085,000	929,639	529,803	53,968	50,156	220,259	75,453	724,565	54,309	0
1998		8,830,457	71,946	6,892,000	136,000	6,755,000	1,045,800	586,627	56,752	59,665	262,243	80,513	759,182	61,529	0
1999		9,719,210	77,055	7,715,000	41,000	7,674,000	1,101,056	626,648	62,687	56,748	272,193	82,780	758,090	68,009	0
2000		12,767,496	85,344	10,661,000	37,000	10,624,000	1,170,625	681,006	73,042	56,085	279,759	80,733	759,002	91,525	0
Indiana															
1987		2,197,318	64,245	1,944,000	353,000	1,591,000	188,086	111,413	15,772	17,203	37,627	6,071	0	987	0
1989		2,120,117	74,520	1,815,000	D	D	227,266	136,040	18,911	18,419	43,658	10,238	0	3,331	0
1991		2,346,791	92,036	1,988,000	226,000	1,762,000	262,508	143,761	20,347	19,726	61,425	17,249	0	4,247	0
1993		2,560,252	77,330	2,177,000	D	D	302,811	167,743	20,552	22,535	65,991	25,990	0	3,111	0
1995		3,162,376	62,061	2,721,000	382,000	2,339,000	375,719	197,095	22,463	34,542	101,283	20,336	0	3,596	0
1997		3,149,259	68,272	2,677,000	D	D	400,399	209,227	23,826	33,321	113,903	20,122	0	3,588	0
1998		3,088,634	38,023	2,622,000	D	D	425,293	213,547	25,517	40,336	126,410	19,483	0	3,318	0
1999		2,763,351	54,903	2,246,000	D	D	460,418	224,035	27,877	41,727	149,209	17,570	0	2,030	0
2000		3,252,494	71,630	2,668,000	75,000	2,593,000	509,141	228,768	34,377	42,343	178,613	25,040	0	3,723	0
Iowa															
1987		540,156	20,217	343,000	D	D	157,539	76,915	16,653	6,212	49,668	8,091	19,000	400	0
1989		616,408	20,447	363,000	D	D	209,394	103,360	24,839	14,711	60,863	5,621	21,800	1,767	0
1991		777,130	26,977	461,000	D	D	259,437	123,858	34,147	14,372	74,471	12,589	26,400	3,316	0
1993		902,050	30,424	533,000	D	D	298,745	145,006	38,218	17,907	80,919	16,695	37,000	2,881	0
1995		1,391,005	37,257	998,000	D	D	322,769	163,620	47,279	19,391	77,793	14,686	31,925	1,054	0
1997		979,747	29,043	578,000	D	D	341,772	162,060	52,713	24,226	83,880	18,893	27,680	3,252	0
1998		1,053,690	32,701	634,000	D	D	358,259	167,123	52,945	31,066	88,665	18,460	24,637	4,093	0
1999		1,002,839	39,213	559,000	6,000	553,000	375,300	177,847	53,415	35,940	91,684	16,414	25,438	3,888	0
2000		1,017,300	34,586	538,000	D	D	418,263	203,437	56,351	32,473	104,472	21,530	23,281	3,170	0

Appendix table 4-24

R&D expenditure, by state, performing sector, and source of funds: 1987–2000

(Thousands of current dollars)

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State	Performing sector:		Industry				U&C						U&C	Other	Nonprofit
	Funding sector:	Total R&D	Federal	Total ^a	Federal ^a	Industry ^b	Total	Federal	Non-Federal	Industry	U&Cs	Nonprofit	Federal ^c	Federal ^d	Federal ^d
Kansas															
1987		1,282,752	9,073	1,179,000	D	D	93,931	37,386	20,031	5,433	27,607	3,474	0	748	0
1989		522,687	9,034	404,000	94,000	310,000	107,856	44,292	24,159	5,187	30,204	4,014	0	1,797	0
1991		NA	11,961	D	D	D	124,174	43,913	28,967	7,292	39,897	4,105	0	5,219	0
1993		463,570	12,198	292,000	47,000	245,000	154,103	59,635	36,640	7,527	44,215	6,086	0	5,269	0
1995		763,702	12,296	569,000	D	D	181,496	70,026	39,353	11,434	52,517	8,166	0	910	0
1997		1,350,536	15,622	1,136,000	D	D	197,586	75,116	45,002	11,907	56,752	8,809	0	1,328	0
1998		1,518,063	24,757	1,279,000	D	D	213,096	80,443	47,089	12,385	56,215	16,964	0	1,210	0
1999		1,555,578	35,743	1,284,000	D	D	234,501	88,728	50,445	19,525	58,212	17,591	0	1,334	0
2000		1,420,089	20,162	1,140,000	D	D	258,336	105,610	44,396	23,410	69,872	15,048	0	1,591	0
Kentucky															
1987		353,868	26,692	249,000	D	D	78,008	30,778	10,841	6,715	26,545	3,129	0	168	0
1989		343,099	31,159	226,000	D	226,000	83,998	32,963	7,113	7,516	30,593	5,813	0	1,942	0
1991		316,616	62,279	154,000	D	D	97,989	38,386	6,122	10,569	38,008	4,904	0	2,348	0
1993		428,684	15,728	289,000	7,000	282,000	122,409	55,698	6,198	13,575	42,013	4,925	0	1,547	0
1995		593,797	5,911	452,000	4,000	448,000	134,784	59,811	9,589	16,627	43,883	4,874	0	1,102	0
1997		525,613	7,289	359,000	3,000	356,000	158,238	75,649	7,394	20,016	53,122	2,057	0	1,086	0
1998		645,079	6,591	427,000	D	D	209,780	80,390	15,049	19,176	86,057	9,108	0	1,708	0
1999		967,676	9,146	684,000	1,000	683,000	273,903	92,572	42,066	21,714	108,568	8,983	0	627	0
2000		866,052	7,500	582,000	1,000	581,000	274,238	96,288	21,849	17,932	121,232	16,937	0	2,314	0
Louisiana															
1987		317,932	34,619	134,000	D	D	148,563	54,367	31,850	7,154	42,639	12,553	0	750	0
1989		385,930	36,410	168,000	D	D	180,032	69,219	40,758	8,193	47,129	14,733	0	1,488	0
1991		453,098	43,104	172,000	16,000	156,000	235,726	98,860	62,167	15,678	44,184	14,837	0	2,268	0
1993		469,705	42,557	170,000	D	D	255,171	95,891	64,306	16,508	61,267	17,199	0	1,977	0
1995		422,967	45,108	61,000	D	D	314,996	135,838	71,898	21,317	66,446	19,497	0	1,863	0
1997		554,255	47,910	172,000	D	D	330,131	128,017	74,861	32,231	78,094	16,928	0	4,214	0
1998		542,408	84,315	102,000	14,000	87,000	351,976	144,039	78,128	23,406	86,840	19,563	0	4,117	0
1999		626,132	58,976	187,000	53,000	134,000	376,098	154,341	79,834	32,879	89,100	19,944	0	4,058	0
2000		626,793	99,196	126,000	1,000	125,000	399,411	169,895	75,626	25,670	95,601	32,619	0	2,186	0
Maine															
1987		76,367	5,493	41,000	D	41,000	16,952	7,787	315	2,051	5,740	1,059	0	12,922	0
1989		72,733	4,394	33,000	D	33,000	19,974	8,288	584	4,002	6,567	533	0	15,365	0
1991		NA	13,862	D	D	D	27,082	10,062	2,197	4,719	9,504	600	0	16,456	0
1993		113,937	13,003	59,000	D	D	24,879	8,959	1,711	4,117	9,674	418	0	17,055	0
1995		345,449	4,238	286,000	D	D	31,901	15,789	2,005	4,158	9,357	592	0	23,310	0
1997		148,620	5,685	83,000	D	D	33,144	15,066	1,551	5,609	10,526	392	0	26,791	0
1998		159,268	10,953	82,000	D	D	35,265	13,981	1,809	7,252	11,194	1,029	0	31,050	0
1999		224,584	4,975	140,000	52,000	88,000	44,437	20,137	1,964	2,476	17,293	2,567	0	35,172	0
2000		318,726	4,755	201,000	53,000	148,000	57,753	25,309	6,445	2,994	20,555	2,450	0	55,218	0

Appendix table 4-24

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R&D expenditure, by state, performing sector, and source of funds: 1987–2000

(Thousands of current dollars)

State	Performing sector:		Industry				U&C						U&C	Other	Nonprofit
	Funding sector:	Total R&D	Federal	Total ^a	Federal ^a	Industry ^b	Total	Federal	Non-Federal	Industry	U&Cs	Nonprofit	Federal ^c	Federal ^d	Federal ^d
Maryland															
1987		4,623,170	2,507,828	1,350,000	608,000	742,000	723,915	576,698	50,425	25,803	59,733	11,256	0	41,427	0
1989		4,972,713	2,915,588	1,088,000	552,000	536,000	900,007	705,292	61,216	35,556	74,426	23,517	0	68,533	585
1991		5,736,048	3,332,276	1,203,000	666,000	537,000	1,050,023	787,317	79,047	39,832	113,214	30,613	0	149,107	1,642
1993		7,530,401	4,116,718	2,076,000	1,287,000	789,000	1,128,066	842,053	90,237	47,604	115,976	32,196	0	204,180	5,437
1995		6,865,287	4,472,415	1,075,000	287,000	788,000	1,159,866	894,585	75,759	55,111	84,508	49,903	0	156,442	1,564
1997		7,395,409	4,569,181	1,425,000	456,000	970,000	1,242,151	927,015	81,381	40,098	114,075	79,582	0	154,995	4,082
1998		8,018,944	4,766,005	1,744,000	655,000	1,089,000	1,330,170	1,014,239	62,950	41,752	142,710	68,519	0	178,769	0
1999		8,087,315	4,814,517	1,700,000	455,000	1,246,000	1,387,262	1,058,128	76,138	33,777	151,053	68,166	0	184,657	879
2000		8,633,558	4,869,668	2,032,000	428,000	1,604,000	1,507,549	1,090,445	82,069	50,154	181,039	103,842	0	224,341	0
Massachusetts															
1987		7,773,057	575,855	5,492,000	1,468,000	4,024,000	719,581	536,999	18,390	64,806	37,790	61,596	354,000	631,621	0
1989		7,948,303	401,091	5,825,000	1,691,000	4,134,000	867,521	621,789	18,529	78,727	58,681	89,795	364,100	419,725	70,866
1991		8,565,279	277,787	6,335,000	1,480,000	4,855,000	953,708	680,168	13,090	90,390	71,025	99,035	389,000	433,698	176,086
1993		9,497,975	383,885	6,952,000	1,878,000	5,074,000	1,105,791	771,864	15,462	98,270	91,877	128,318	355,000	525,805	175,494
1995		9,969,508	315,749	7,416,000	1,458,000	5,958,000	1,147,150	824,826	13,240	89,409	92,116	127,559	344,657	587,363	158,589
1997		11,096,958	361,118	8,300,000	1,397,000	6,903,000	1,268,356	915,187	29,248	102,848	124,784	96,289	352,591	652,158	162,735
1998		13,382,495	301,193	10,604,000	2,419,000	8,185,000	1,342,712	987,319	31,704	107,368	98,737	117,584	364,783	706,800	63,007
1999		12,189,891	240,059	9,314,000	2,374,000	6,940,000	1,402,522	1,018,574	32,905	125,874	88,441	136,728	353,321	804,838	75,151
2000		13,004,427	259,172	9,863,000	1,831,000	8,032,000	1,485,792	1,064,468	40,305	138,667	94,322	148,030	348,339	967,591	80,533
Michigan															
1987		7,919,304	87,364	7,415,000	115,000	7,300,000	396,580	207,729	30,320	25,146	103,830	29,555	0	20,360	0
1989		9,058,245	71,349	8,468,000	99,000	8,369,000	487,192	263,506	35,983	36,310	116,135	35,258	0	31,704	0
1991		8,850,565	91,833	8,116,000	89,000	8,027,000	601,189	309,592	42,539	43,684	152,841	52,533	0	41,543	0
1993		10,777,535	95,717	9,924,000	153,000	9,771,000	699,957	377,278	39,541	47,390	172,114	63,634	0	57,861	0
1995		13,274,875	82,008	12,388,000	148,000	12,240,000	755,089	417,755	48,961	50,629	180,866	56,878	0	49,778	0
1997		13,990,795	107,749	13,009,000	121,000	12,888,000	842,303	453,776	50,749	57,149	205,580	75,049	0	31,743	0
1998		13,655,250	111,457	12,648,000	D	D	877,804	472,416	56,146	59,400	221,186	68,656	0	17,989	0
1999		18,798,557	149,473	17,714,000	134,000	17,580,000	919,390	508,080	58,472	60,451	229,644	62,743	0	15,694	0
2000		18,892,070	239,543	17,640,000	80,000	17,559,000	995,756	553,119	63,226	66,955	242,336	70,120	0	16,771	0
Minnesota															
1987		2,529,453	26,388	2,242,000	D	D	222,381	109,003	37,287	11,056	39,371	25,664	0	38,684	0
1989		2,398,568	31,036	2,066,000	D	D	258,614	132,880	42,542	12,389	43,713	27,090	0	42,918	0
1991		2,227,672	40,468	1,810,000	150,000	1,660,000	331,471	164,887	53,614	19,270	60,904	32,796	0	45,733	0
1993		2,922,121	40,129	2,458,000	378,000	2,080,000	332,033	174,716	49,861	21,524	64,840	21,092	0	91,959	0
1995		3,087,438	30,139	2,636,000	315,000	2,321,000	336,524	194,819	49,543	23,427	46,235	22,500	0	84,775	0
1997		3,605,451	34,573	3,116,000	362,000	2,754,000	363,095	200,149	50,539	24,196	53,731	34,480	0	91,783	0
1998		3,817,731	38,437	3,321,000	334,000	2,986,000	364,503	206,258	47,696	25,173	55,925	29,451	0	93,791	0
1999		3,904,779	37,878	3,379,000	242,000	3,137,000	375,919	210,235	49,447	24,323	62,310	29,604	0	111,982	0
2000		4,298,967	32,014	3,722,000	173,000	3,550,000	416,411	233,018	52,659	26,859	71,236	32,639	0	128,542	0

Appendix table 4-24

R&D expenditure, by state, performing sector, and source of funds: 1987–2000

(Thousands of current dollars)

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State	Performing sector:		Industry				U&C						U&C	Other	Nonprofit
	Funding sector:	Total R&D	Federal	Total ^a	Federal ^a	Industry ^b	Total	Federal	Non-Federal	Industry	U&Cs	Nonprofit	Federal ^c	Federal ^d	Federal ^d
Mississippi															
1987		236,427	127,489	44,000	D	D	59,882	24,532	16,775	4,282	8,897	5,396	0	5,056	0
1989		268,090	130,448	56,000	D	D	78,922	35,747	20,493	5,439	9,670	7,573	0	2,720	0
1991		302,380	157,156	41,000	D	D	100,383	52,853	20,886	8,892	12,132	5,620	0	3,841	0
1993		324,189	162,622	52,000	D	D	105,739	54,715	21,836	9,824	10,960	8,404	0	3,828	0
1995		314,710	132,616	66,000	D	D	112,789	62,597	23,778	8,912	11,211	6,291	0	3,305	0
1997		369,557	165,297	73,000	D	D	124,601	62,350	29,324	9,169	13,623	10,135	0	6,659	0
1998		366,465	132,896	73,000	17,000	57,000	152,683	79,772	29,455	10,399	31,126	1,931	0	7,886	0
1999		476,292	196,245	114,000	43,000	71,000	160,287	85,128	31,138	9,570	33,732	719	0	5,760	0
2000		512,789	186,799	101,000	19,000	83,000	217,064	117,168	38,833	10,973	47,025	3,065	0	7,926	0
Missouri															
1987		2,171,482	46,007	1,905,000	D	D	205,597	113,146	11,753	19,325	49,579	11,794	0	14,878	0
1989		2,709,978	58,176	2,380,000	D	D	255,009	139,677	14,509	25,151	59,615	16,057	0	16,793	0
1991		NA	71,220	D	D	D	305,780	165,099	19,061	30,195	67,335	24,090	0	22,217	0
1993		1,788,896	51,288	1,375,000	D	D	344,566	190,959	18,959	31,492	78,490	24,666	0	18,042	0
1995		2,498,360	55,445	2,028,000	584,000	1,443,000	397,192	212,750	21,486	36,639	92,974	33,343	0	17,723	0
1997		1,826,338	50,526	1,290,000	30,000	1,260,000	464,809	260,668	24,101	36,669	111,305	32,066	0	21,003	0
1998		1,867,905	48,544	1,313,000	D	D	484,159	277,894	24,473	29,605	109,470	42,717	0	22,202	0
1999		2,009,472	48,097	1,387,000	21,000	1,367,000	549,876	321,115	25,591	30,380	127,617	45,173	0	24,499	0
2000		2,583,036	43,851	1,893,000	18,000	1,876,000	614,101	371,713	26,387	33,535	130,288	52,178	0	32,084	0
Montana															
1987		54,381	17,763	7,000	0	7,000	29,425	11,299	7,325	3,197	7,604	0	0	193	0
1989		NA	20,877	D	D	5,000	32,450	11,552	7,919	3,242	9,534	203	0	1,077	0
1991		NA	26,133	D	D	D	38,149	13,801	8,884	4,406	10,820	238	0	1,340	0
1993		90,438	27,075	14,000	D	D	48,080	21,399	9,029	3,234	14,011	407	0	1,283	0
1995		119,109	33,553	17,000	D	D	66,879	27,382	12,914	5,825	20,172	586	0	1,677	0
1997		199,351	33,199	92,000	D	D	70,591	31,261	14,368	8,470	15,684	808	0	3,561	0
1998		190,675	33,101	82,000	D	D	72,425	35,730	13,784	8,437	13,435	1,039	0	3,149	0
1999		168,611	42,816	33,000	D	D	84,460	43,872	14,639	8,967	15,566	1,416	0	8,335	0
2000		169,856	35,344	28,000	D	D	99,069	51,686	17,873	10,298	15,658	3,554	0	7,443	0
Nebraska															
1987		160,209	21,899	62,000	D	D	74,468	33,275	16,123	6,664	14,893	3,513	0	1,842	0
1989		181,706	22,074	64,000	D	D	93,506	36,761	22,926	9,098	20,676	4,045	0	2,126	0
1991		210,756	21,920	59,000	7,000	52,000	123,711	40,597	35,817	7,845	34,780	4,672	0	6,125	0
1993		294,531	24,730	128,000	14,000	114,000	135,737	38,023	39,576	8,891	36,406	12,841	0	6,064	0
1995		335,930	23,132	150,000	D	D	157,044	54,746	42,331	10,933	45,536	3,498	0	5,754	0
1997		275,359	23,741	71,000	D	D	175,592	60,388	47,089	13,686	49,290	5,139	0	5,026	0
1998		314,645	28,873	93,000	D	D	186,200	62,578	46,602	16,749	55,018	5,253	0	6,572	0
1999		417,342	28,769	178,000	6,000	172,000	205,363	61,226	10,648	17,231	102,726	13,532	0	5,210	0
2000		438,996	25,082	199,000	D	D	208,480	65,702	7,243	17,636	101,159	16,740	0	6,434	0

Appendix table 4-24

R&D expenditure, by state, performing sector, and source of funds: 1987–2000

(Thousands of current dollars)

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State	Performing sector:		Industry				U&C						U&C	Other	Nonprofit
	Funding sector:	Total R&D	Federal	Total ^a	Federal ^a	Industry ^b	Total	Federal	Non-Federal	Industry	U&Cs	Nonprofit	Federal ^c	Federal ^d	Federal ^d
Nevada															
1987		167,996	76,509	57,000	D	D	34,254	18,563	1,973	3,983	8,805	930	0	233	0
1989		152,642	77,198	29,000	D	D	45,555	26,587	2,682	4,296	10,396	1,594	0	889	0
1991		261,232	108,614	83,000	63,000	20,000	66,742	38,221	2,608	5,323	19,675	915	0	2,876	0
1993		218,503	71,044	67,000	D	D	79,124	43,196	4,361	5,245	25,193	1,129	0	1,335	0
1995		445,028	34,669	322,000	D	D	86,902	47,708	6,460	6,941	24,798	995	0	1,457	0
1997		516,544	46,025	380,000	D	D	88,331	43,934	4,411	5,464	30,749	3,773	0	2,188	0
1998		570,509	48,514	434,000	D	D	83,888	45,496	4,533	5,355	24,314	4,190	0	4,107	0
1999		457,765	27,843	337,000	D	D	91,485	51,387	5,442	5,196	25,484	3,976	0	1,437	0
2000		377,412	20,696	248,000	D	D	106,340	60,005	7,032	5,532	29,227	4,544	0	2,376	0
New Hampshire															
1987		164,130	19,006	94,000	D	D	50,928	34,633	2,045	2,081	8,114	4,055	0	196	0
1989		NA	21,510	D	D	95,000	62,172	41,816	2,646	2,951	9,333	5,426	0	97	0
1991		NA	88,342	D	D	102,000	78,975	52,833	4,375	3,997	10,225	7,545	0	330	0
1993		438,620	88,839	248,000	D	D	99,475	67,727	5,846	4,842	11,768	9,292	0	2,306	0
1995		597,697	30,902	472,000	36,000	436,000	93,073	60,131	3,963	3,919	12,948	12,112	0	1,722	0
1997		798,601	36,861	652,000	D	D	107,505	67,282	7,990	4,880	15,058	12,295	0	2,235	0
1998		1,339,951	33,959	1,187,000	D	D	117,323	70,966	8,300	6,209	17,439	14,409	0	1,669	0
1999		1,256,206	28,353	1,099,000	D	D	127,135	77,327	8,961	8,939	18,102	13,806	0	1,718	0
2000		775,004	35,717	586,000	D	D	150,982	95,290	9,747	9,197	22,924	13,824	0	2,305	0
New Jersey															
1987		6,724,917	255,275	6,141,000	457,000	5,684,000	214,696	95,294	37,489	11,780	55,142	14,991	107,000	6,946	0
1989		7,228,887	429,755	6,381,000	601,000	5,780,000	283,897	119,237	45,150	16,428	82,798	20,284	112,600	21,635	0
1991		8,777,671	512,928	7,810,000	855,000	6,955,000	352,310	150,044	43,361	19,502	114,157	25,246	90,800	11,528	105
1993		9,180,997	509,310	8,162,000	378,000	7,784,000	373,816	166,835	36,361	26,115	116,307	28,198	116,000	11,876	7,995
1995		9,128,185	343,667	8,200,000	197,000	8,002,000	443,371	208,934	39,535	25,861	135,607	33,434	125,685	11,332	4,130
1997		12,067,086	459,286	11,069,000	117,000	10,952,000	462,052	224,084	37,274	26,186	139,540	34,968	59,146	15,641	1,961
1998		11,368,389	392,554	10,415,000	134,000	10,282,000	484,642	227,954	39,773	27,236	150,483	39,196	53,005	17,106	6,082
1999		10,535,662	486,722	9,453,000	126,000	9,327,000	520,957	239,880	45,013	30,402	162,468	43,194	53,693	15,666	5,624
2000		13,133,222	417,685	12,062,000	253,000	11,809,000	567,666	257,445	46,071	29,817	160,412	73,921	65,305	20,566	0
New Mexico															
1987		2,392,370	420,821	993,000	906,000	87,000	132,145	75,923	17,908	20,123	14,187	4,004	835,000	11,404	0
1989		2,679,324	593,878	1,034,000	D	D	136,189	76,777	14,612	16,433	17,860	10,507	902,400	4,857	8,000
1991		2,589,385	392,967	1,064,000	1,001,000	63,000	170,139	94,309	15,467	19,530	28,762	12,071	947,600	7,241	7,438
1993		2,751,608	503,783	962,000	D	D	186,750	113,060	13,998	18,743	28,507	12,442	1,084,000	6,762	8,313
1995		3,295,475	481,047	1,461,000	1,380,000	81,000	230,393	156,554	17,298	10,696	38,562	7,283	1,109,400	6,218	7,417
1997		3,027,688	366,253	1,310,000	D	D	219,150	144,639	14,954	9,915	42,442	7,200	1,121,670	10,362	253
1998		3,031,678	395,908	1,205,000	D	D	228,623	152,137	12,667	12,559	45,780	5,480	1,187,000	15,147	0
1999		3,278,714	409,886	1,342,000	D	D	224,500	155,218	12,302	12,866	39,260	4,854	1,278,901	23,427	0
2000		3,085,199	320,838	1,158,000	D	D	246,258	175,028	11,965	11,692	41,740	5,833	1,333,194	26,909	0

Appendix table 4-24

R&D expenditure, by state, performing sector, and source of funds: 1987–2000

(Thousands of current dollars)

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State	Performing sector:		Industry				U&C						U&C	Other	Nonprofit
	Funding sector:	Total R&D	Federal	Total ^a	Federal ^a	Industry ^b	Total	Federal	Non-Federal	Industry	U&Cs	Nonprofit	Federal ^c	Federal ^d	Federal ^d
New York															
1987		8,185,452	160,073	6,559,000	3,426,000	13,904,000	1,108,478	758,040	53,349	62,173	126,931	107,985	221,000	136,901	0
1989		9,877,995	89,334	8,071,000	1,480,000	6,591,000	1,311,643	854,137	68,474	70,598	170,970	147,464	255,200	150,818	0
1991		10,315,493	173,988	8,268,000	1,558,000	6,710,000	1,419,765	918,063	75,490	85,282	190,624	150,306	283,900	169,570	270
1993		10,973,876	131,440	8,820,000	1,392,000	7,428,000	1,544,702	1,052,171	75,571	87,804	180,217	148,939	293,000	184,734	0
1995		10,954,561	117,250	8,651,000	1,821,000	6,831,000	1,702,414	1,107,468	95,941	98,200	206,258	194,547	281,148	202,749	0
1997		12,306,752	136,215	9,939,000	2,078,000	7,861,000	1,783,810	1,151,542	80,142	95,778	245,093	211,255	239,052	208,675	0
1998		13,730,588	191,988	11,176,000	2,216,000	8,960,000	1,924,667	1,223,705	82,308	96,367	286,449	235,838	0	221,286	216,647
1999		14,110,375	132,848	11,388,000	2,105,000	9,284,000	2,065,882	1,334,210	84,437	101,656	322,852	222,727	0	274,887	248,758
2000		13,555,586	176,034	10,539,000	1,773,000	8,766,000	2,290,812	1,475,423	102,684	100,995	374,797	236,913	0	300,685	249,055
North Carolina															
1987		2,212,322	129,508	1,741,000	5,000	1,736,000	313,819	195,177	54,897	23,825	25,757	14,163	0	27,995	0
1989		1,820,827	59,738	1,305,000	5,000	1,300,000	419,848	261,896	61,259	41,375	41,222	14,096	0	36,241	0
1991		1,965,076	150,956	1,285,000	4,000	1,281,000	501,841	303,921	71,990	55,079	51,758	19,093	0	27,279	0
1993		2,745,087	174,294	1,929,000	16,000	1,913,000	604,581	377,983	74,041	69,950	63,862	18,745	0	37,212	0
1995		3,191,790	220,179	2,226,000	15,000	2,212,000	686,609	431,682	97,647	74,086	61,857	21,337	0	59,002	0
1997		4,667,017	229,610	3,590,000	111,000	3,478,000	785,980	439,124	115,804	96,116	105,767	29,169	0	61,427	0
1998		4,559,996	235,873	3,362,000	12,000	3,350,000	898,513	516,489	128,976	120,934	96,259	35,855	0	63,610	0
1999		5,268,108	230,780	3,953,000	19,000	3,934,000	1,012,576	538,102	121,787	179,830	145,060	27,797	0	71,752	0
2000		5,045,250	262,003	3,672,000	30,000	3,641,000	1,040,017	577,437	113,764	169,979	147,364	31,473	0	71,230	0
North Dakota															
1987		116,487	20,343	60,000	D	D	35,912	15,385	13,731	3,578	2,391	827	0	232	0
1989		75,833	20,217	27,000	D	27,000	27,951	19,396	918	2,521	4,113	1,003	0	665	0
1991		NA	23,938	D	D	D	48,930	21,570	1,327	2,308	22,336	1,389	0	1,231	0
1993		91,534	27,220	9,000	D	D	54,175	25,223	1,532	2,173	23,595	1,652	0	1,139	0
1995		97,606	25,042	12,000	D	D	59,617	27,841	1,534	3,346	25,043	1,853	0	947	0
1997		115,946	26,401	33,000	0	33,000	56,096	24,207	1,070	3,439	25,554	1,826	0	449	0
1998		119,450	27,360	34,000	0	34,000	56,945	23,191	1,123	3,806	26,091	3,806	0	1,145	0
1999		168,176	30,561	75,000	0	75,000	61,695	25,923	1,965	3,608	27,782	2,417	0	920	0
2000		145,671	25,842	51,000	D	D	67,406	29,343	2,417	4,400	28,651	2,595	0	1,423	0
Ohio															
1987		4,934,310	991,290	3,569,000	2,206,000	2,807,000	329,344	193,615	35,038	22,265	47,189	31,237	0	44,676	0
1989		5,474,881	1,055,523	3,946,000	681,000	3,265,000	427,345	242,559	48,072	37,591	62,068	37,055	0	46,013	0
1991		5,975,241	688,926	4,726,000	778,000	3,948,000	503,725	284,791	53,079	37,948	73,765	54,142	0	56,590	0
1993		6,397,650	583,033	5,144,000	1,030,000	4,114,000	593,542	348,166	46,038	47,781	89,146	62,411	0	77,075	0
1995		5,314,554	599,044	4,001,000	574,000	3,428,000	642,596	375,061	47,690	54,316	106,701	58,828	0	71,914	0
1997		7,144,779	681,170	5,608,000	604,000	5,004,000	763,827	417,921	70,078	82,653	143,890	49,285	0	91,782	0
1998		6,969,763	698,173	5,338,000	605,000	4,732,000	808,210	444,316	74,449	88,340	151,611	49,494	0	125,380	0
1999		8,082,147	604,957	6,514,000	1,148,000	5,366,000	830,701	475,054	68,051	80,705	149,023	57,868	0	132,489	0
2000		7,661,540	615,458	5,962,000	539,000	5,423,000	918,500	498,967	83,520	87,570	179,722	68,721	0	165,582	0

Appendix table 4-24

R&D expenditure, by state, performing sector, and source of funds: 1987–2000

(Thousands of current dollars)

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State	Performing sector:		Industry				U&C						U&C	Other	Nonprofit
	Funding sector:	Total R&D	Federal	Total ^a	Federal ^a	Industry ^b	Total	Federal	Non-Federal	Industry	U&Cs	Nonprofit	Federal ^c	Federal ^d	Federal ^d
Oklahoma															
1987		534,354	33,729	384,000	D	D	99,363	25,880	3,463	7,078	57,472	5,470	0	17,262	0
1989		507,700	46,083	332,000	D	D	113,279	33,067	5,062	5,667	60,063	9,420	0	16,338	0
1991		604,019	40,970	392,000	2,000	390,000	152,624	42,806	13,593	8,559	74,265	13,401	0	18,425	0
1993		533,398	34,311	311,000	2,000	309,000	172,968	56,475	22,399	10,320	67,338	16,436	0	15,119	0
1995		528,764	45,104	288,000	38,000	249,000	186,371	59,504	19,699	11,453	79,107	16,608	0	9,289	0
1997		643,755	44,238	428,000	45,000	383,000	162,871	71,421	18,944	14,036	45,309	13,161	0	8,646	0
1998		512,899	51,038	245,000	2,000	243,000	208,873	83,785	37,415	13,320	59,574	14,779	0	7,988	0
1999		664,408	45,912	365,000	2,000	363,000	238,799	88,507	41,736	14,802	76,192	17,562	0	14,697	0
2000		659,684	58,619	333,000	3,000	331,000	252,419	93,434	42,396	16,789	88,152	11,648	0	15,646	0
Oregon															
1987		475,890	31,517	294,000	D	D	135,326	81,932	18,645	4,059	16,007	14,683	0	15,047	0
1989		578,941	42,199	355,000	30,000	325,000	161,215	99,141	20,860	4,857	16,717	19,640	0	20,527	0
1991		600,175	47,486	349,000	21,000	321,000	179,384	108,849	25,727	6,850	21,519	16,439	0	24,305	0
1993		773,855	50,795	471,000	32,000	439,000	225,750	134,956	29,762	8,578	34,209	18,245	0	26,310	0
1995		1,088,654	55,959	741,000	35,000	706,000	258,575	158,076	30,312	11,693	37,453	21,041	0	33,120	0
1997		1,519,732	90,017	1,102,000	28,000	1,075,000	290,603	195,030	32,335	9,647	35,824	17,767	0	37,112	0
1998		1,910,443	87,846	1,492,000	26,000	1,467,000	309,748	203,119	32,963	10,201	38,121	25,344	0	20,849	0
1999		1,974,067	89,369	1,540,000	3,000	1,537,000	319,700	210,667	33,975	10,473	48,269	16,316	0	24,998	0
2000		2,116,232	88,618	1,651,000	7,000	1,644,000	346,149	246,684	35,485	14,775	32,568	16,637	0	30,465	0
Pennsylvania															
1987		5,633,446	284,237	4,630,000	1,380,000	3,250,000	611,935	385,912	23,559	66,246	85,399	50,819	14,000	93,274	0
1989		5,790,920	274,016	4,632,000	1,907,000	2,725,000	761,337	468,993	32,466	91,733	109,498	58,647	20,900	102,667	0
1991		7,620,947	315,003	6,262,000	2,060,000	4,202,000	878,826	552,239	26,532	100,210	141,865	57,980	27,100	137,865	153
1993		8,277,907	353,951	6,711,000	1,142,000	5,569,000	1,019,006	676,963	20,177	111,569	149,296	61,001	35,000	158,950	0
1995		6,918,955	227,520	5,331,000	376,000	4,955,000	1,139,531	754,444	34,954	120,303	164,296	65,534	31,525	189,379	0
1997		8,209,081	151,216	6,609,000	672,000	5,937,000	1,241,180	807,553	41,685	139,325	182,835	69,782	32,229	175,456	0
1998		8,761,617	132,927	7,083,000	485,000	6,598,000	1,341,607	872,722	43,633	156,179	199,139	69,934	30,113	173,970	0
1999		10,695,077	168,382	8,932,000	441,000	8,491,000	1,400,286	905,775	52,510	154,203	202,126	85,672	31,821	162,588	0
2000		9,841,912	151,955	7,873,000	460,000	7,412,000	1,549,050	1,032,963	44,433	159,669	202,535	109,450	55,955	211,952	0
Rhode Island															
1987		553,281	239,969	234,000	D	D	65,516	51,313	2,136	5,380	5,293	1,394	0	13,796	0
1989		428,168	195,920	139,000	D	D	79,801	56,446	3,276	6,305	11,646	2,128	0	13,447	0
1991		484,693	226,367	152,000	11,000	141,000	88,448	59,616	5,278	3,709	17,520	2,325	0	17,878	0
1993		484,236	184,784	176,000	12,000	164,000	103,194	71,515	2,812	3,212	23,481	2,174	0	20,258	0
1995		896,570	254,302	520,000	D	D	105,501	72,461	3,225	2,479	25,644	1,692	0	16,767	0
1997		1,040,290	202,192	704,000	D	D	111,977	79,417	1,161	1,995	26,545	2,859	0	22,121	0
1998		1,677,063	222,106	1,320,000	D	D	111,979	77,737	2,857	2,074	26,130	3,181	0	22,978	0
1999		1,651,139	232,701	1,264,000	D	D	120,868	81,512	4,485	2,901	28,474	3,496	0	33,570	0
2000		1,500,828	240,862	1,090,000	D	D	129,697	88,510	4,564	2,735	30,289	3,599	0	40,269	0

Appendix table 4-24

R&D expenditure, by state, performing sector, and source of funds: 1987–2000

(Thousands of current dollars)

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State	Performing sector:		Industry				U&C						U&C	Other	Nonprofit
	Funding sector:	Total R&D	Federal	Total ^a	Federal ^a	Industry ^b	Total	Federal	Non-Federal	Industry	U&Cs	Nonprofit	Federal ^c	Federal ^d	Federal ^d
South Carolina															
1987		640,738	11,527	523,000	D	D	95,811	34,350	14,061	6,184	37,110	4,106	0	10,400	0
1989		575,597	59,660	386,000	D	D	120,137	41,627	17,421	7,906	44,864	8,319	0	9,800	0
1991		594,444	13,955	419,000	D	D	151,204	54,045	16,858	15,903	54,011	10,387	0	10,285	0
1993		713,450	38,208	495,000	D	D	178,174	73,020	16,057	14,242	52,850	22,005	0	2,068	0
1995		996,261	34,441	739,000	D	D	220,088	109,443	17,899	19,364	53,994	19,388	0	2,732	0
1997		1,039,818	34,019	783,000	83,000	700,000	219,000	102,887	20,697	8,682	65,914	20,820	0	3,799	0
1998		989,452	44,872	695,000	D	D	246,305	112,845	27,166	11,407	83,416	11,471	0	2,583	692
1999		979,065	45,050	665,000	D	D	267,549	111,092	26,670	12,826	101,890	15,071	0	1,461	5
2000		1,126,164	45,754	781,000	D	D	294,184	131,043	31,743	15,478	102,793	13,127	0	5,226	0
South Dakota															
1987		21,311	5,685	4,000	0	4,000	11,395	5,129	4,789	472	739	266	0	231	0
1989		22,274	5,563	4,000	0	4,000	12,449	6,166	4,905	316	840	222	0	262	0
1991		32,297	9,470	5,000	0	5,000	15,959	6,917	6,539	310	1,520	673	0	1,868	0
1993		58,634	13,236	22,000	D	D	22,196	9,100	9,686	486	2,140	784	0	1,202	0
1995		54,667	13,428	19,000	0	19,000	21,392	10,623	6,772	469	2,341	1,187	0	847	0
1997		71,365	19,307	26,000	0	26,000	24,558	10,879	8,341	811	3,043	1,484	0	1,500	0
1998		59,766	27,501	5,000	0	5,000	25,140	11,702	8,355	495	2,647	1,941	0	2,125	0
1999		59,601	20,709	13,000	0	13,000	25,522	12,759	7,798	306	2,397	2,262	0	370	0
2000		84,801	13,232	44,000	16,000	28,000	27,269	13,659	6,525	361	3,825	2,899	0	300	0
Tennessee															
1987		950,871	125,890	649,000	D	D	155,163	84,030	28,035	11,757	24,124	7,217	9,000	11,818	0
1989		1,294,796	135,383	930,000	D	D	207,471	127,627	31,365	10,367	28,221	9,891	7,800	14,142	0
1991		1,142,486	123,708	737,000	D	D	243,763	150,274	32,927	12,359	34,772	13,431	10,400	27,515	100
1993		1,212,807	86,547	792,000	D	D	277,686	180,177	31,255	15,743	34,150	16,361	11,000	45,574	0
1995		1,394,231	62,100	1,003,000	D	D	308,155	191,797	35,395	16,345	45,116	19,502	1,101	19,875	0
1997		1,566,151	77,836	1,089,000	D	D	329,710	198,805	37,911	17,430	52,844	22,720	44,022	25,583	0
1998		2,502,826	37,925	2,040,000	D	D	346,466	207,822	36,615	19,995	54,066	27,968	50,750	27,685	0
1999		2,290,201	64,783	1,768,000	D	D	371,439	217,970	39,045	21,530	59,489	33,405	51,943	34,036	0
2000		2,057,293	88,947	1,215,000	D	D	405,013	240,337	39,258	18,520	67,634	39,264	0	35,888	312,445
Texas															
1987		5,454,724	340,803	4,261,000	1,784,000	2,477,000	809,781	403,285	92,020	46,903	168,648	98,925	0	43,140	0
1989		6,581,710	464,111	5,028,000	1,848,000	3,180,000	1,014,305	488,137	123,805	63,575	210,128	128,660	0	75,294	0
1991		6,635,249	405,267	4,755,000	D	D	1,215,548	550,558	139,019	79,964	283,850	162,157	2,300	257,134	0
1993		6,965,939	467,760	4,882,000	640,000	4,242,000	1,387,088	682,785	157,954	89,554	292,807	163,988	5,000	224,091	0
1995		8,384,534	537,508	6,211,000	912,000	5,298,000	1,472,165	747,687	158,886	102,486	296,606	166,500	0	163,001	860
1997		9,487,282	559,634	7,265,000	784,000	6,481,000	1,581,200	844,746	170,457	132,352	269,793	163,852	0	80,394	1,054
1998		10,774,067	596,978	8,408,000	223,000	8,185,000	1,698,363	909,528	179,491	140,196	289,879	179,269	0	69,230	1,496
1999		12,429,172	584,149	9,935,000	118,000	9,817,000	1,829,967	975,753	183,149	160,032	301,326	209,707	0	77,689	2,367
2000		11,552,437	464,699	8,961,000	230,000	8,731,000	2,039,642	1,101,463	229,255	165,151	322,234	221,539	0	87,096	0

Appendix Tables

Appendix table 4-24

R&D expenditure, by state, performing sector, and source of funds: 1987–2000

(Thousands of current dollars)

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State	Performing sector:		Industry				U&C						U&C	Other	Nonprofit
	Funding sector:	Total R&D	Federal	Total ^a	Federal ^a	Industry ^b	Total	Federal	Non-Federal	Industry	U&Cs	Nonprofit	Federal ^c	Federal ^d	Federal ^d
Utah															
1987		1,031,253	99,166	809,000	D	D	120,878	81,355	13,412	5,734	16,178	4,199	0	2,209	0
1989		620,604	66,414	387,000	D	D	164,828	109,053	17,183	5,503	27,822	5,267	0	2,362	0
1991		664,474	103,269	356,000	51,000	305,000	201,470	137,613	16,756	6,880	33,779	6,442	0	3,735	0
1993		751,165	140,556	411,000	51,000	360,000	194,685	136,630	13,075	9,303	27,825	7,852	0	4,924	0
1995		1,144,080	131,138	803,000	178,000	625,000	202,212	140,600	15,431	9,456	28,065	8,660	0	7,730	0
1997		1,381,073	117,231	1,027,000	199,000	829,000	234,151	158,237	17,876	14,452	35,822	7,764	0	2,691	0
1998		1,494,808	135,365	1,109,000	181,000	928,000	249,147	165,319	17,556	13,502	42,561	10,209	0	1,296	0
1999		1,474,191	74,129	1,123,000	D	D	273,192	177,563	19,852	15,730	46,220	13,827	0	3,870	0
2000		1,360,644	69,871	979,000	D	D	308,059	192,100	20,365	17,853	43,818	33,923	0	3,714	0
Vermont															
1987		282,584	3,710	247,000	0	247,000	31,547	22,289	1,805	2,877	3,330	1,246	0	327	0
1989		NA	4,404	D	D	D	42,743	28,535	2,500	3,486	5,485	2,737	0	2,639	0
1991		NA	5,122	D	D	D	46,541	30,860	2,859	4,181	6,395	2,246	0	4,543	0
1993		342,809	5,601	284,000	D	D	49,839	31,530	2,666	4,573	8,253	2,817	0	3,369	0
1995		308,180	4,702	248,000	D	D	54,065	32,932	2,454	5,467	9,519	3,693	0	1,413	0
1997		313,881	7,400	246,000	D	D	59,526	34,042	2,683	5,399	11,465	5,937	0	955	0
1998		175,486	4,171	112,000	32,000	80,000	57,832	31,460	2,648	5,513	11,920	6,291	0	1,483	0
1999		388,598	4,065	318,000	D	D	64,791	36,773	2,718	7,112	11,896	6,292	0	1,742	0
2000		465,349	3,599	396,000	D	D	64,762	41,232	3,262	5,713	10,239	4,316	0	988	0
Virginia															
1987		2,558,458	883,844	1,342,000	1,068,000	274,000	207,934	116,137	36,400	15,895	29,841	9,661	0	124,680	0
1989		2,555,475	1,017,754	1,126,000	687,000	439,000	278,065	146,712	49,501	21,953	45,348	14,551	13,200	45,489	74,967
1991		2,775,919	1,107,423	1,115,000	679,000	436,000	342,476	183,798	51,474	31,899	52,857	22,448	28,600	42,826	139,594
1993		2,938,617	1,226,598	1,087,000	595,000	492,000	403,201	226,130	46,108	35,822	69,479	25,662	35,000	53,272	133,546
1995		3,897,444	1,580,530	1,577,000	743,000	834,000	446,776	261,604	46,814	45,897	64,379	28,082	74,015	41,651	177,472
1997		4,136,004	1,654,696	1,767,000	851,000	916,000	454,525	269,821	46,804	39,826	73,777	24,297	79,647	36,922	143,214
1998		4,933,647	1,480,464	2,707,000	1,614,000	1,093,000	490,695	288,634	49,343	46,173	76,938	29,607	75,963	43,793	135,732
1999		5,100,161	1,793,639	2,488,000	1,096,000	1,391,000	531,286	303,018	55,121	49,589	90,982	32,576	74,604	54,641	157,991
2000		5,069,481	1,449,209	2,718,000	800,000	1,918,000	587,718	321,690	70,328	53,380	103,522	38,798	79,342	67,066	168,146
Washington															
1987		3,520,818	122,468	3,071,000	D	D	235,927	166,458	5,561	21,183	33,623	9,102	0	91,423	0
1989		3,224,988	111,220	2,716,000	D	D	276,885	205,150	6,063	21,393	36,126	8,153	0	60,549	60,334
1991		3,889,660	132,503	3,215,000	D	D	349,667	253,381	11,351	28,107	45,229	11,599	0	72,156	120,334
1993		5,421,959	113,263	4,689,000	891,000	3,798,000	427,763	312,497	13,693	33,506	52,301	15,766	0	75,104	116,829
1995		5,240,679	159,837	4,294,000	D	D	485,970	340,327	13,761	39,429	77,212	15,241	0	95,900	204,972
1997		7,543,329	167,356	6,610,000	D	D	507,659	365,814	14,845	40,882	69,433	16,685	0	114,787	143,527
1998		8,465,553	183,685	7,476,000	D	D	534,410	384,074	13,119	41,838	76,678	18,701	0	121,688	149,770
1999		8,336,432	191,104	7,231,000	D	D	588,075	417,330	16,340	54,656	78,902	20,847	0	175,105	151,148
2000		10,516,331	258,718	9,265,000	D	D	642,934	443,223	15,266	62,087	101,445	20,913	0	198,734	150,945

R&D expenditure, by state, performing sector, and source of funds: 1987–2000

(Thousands of current dollars)

State	Performing sector:		Industry				U&C						U&C	Other	Nonprofit
	Funding sector:	Total R&D	Federal	Total ^a	Federal ^a	Industry ^b	Total	Federal	Non-Federal	Industry	U&Cs	Nonprofit	Federal ^c	Federal ^d	Federal ^d
West Virginia															
1987		187,642	56,605	87,000	D	D	26,704	13,011	871	884	10,736	1,202	17,000	333	0
1989	NA	63,239	D	D	80,000	39,368	17,339	1,255	3,963	15,081	1,730	18,400	2,098	0	
1991	NA	76,078	D	D	69,000	50,772	20,479	1,564	11,170	13,191	4,368	21,900	4,985	0	
1993		279,583	93,059	100,000	D	D	55,021	31,662	2,004	3,973	14,132	3,250	28,000	3,503	0
1995		475,040	139,595	243,000	D	D	53,399	30,464	2,023	3,160	13,470	4,282	33,047	5,999	0
1997		427,415	86,663	233,000	D	D	63,638	29,623	2,413	3,719	23,190	4,693	33,172	10,942	0
1998		420,704	96,682	225,000	D	D	63,446	25,301	3,053	4,547	26,525	4,020	34,708	868	0
1999		438,558	116,330	216,000	D	D	64,340	26,589	3,204	5,532	24,752	4,263	37,162	4,726	0
2000		457,128	102,958	235,000	D	D	73,420	33,972	2,963	7,510	24,299	4,676	35,536	10,214	0
Wisconsin															
1987		1,538,985	21,745	1,217,000	36,000	1,181,000	297,411	170,235	49,800	11,446	42,017	23,913	0	2,829	0
1989		1,398,630	26,945	1,030,000	32,000	998,000	336,815	197,818	55,372	16,268	43,304	24,053	0	4,870	0
1991		1,573,365	32,321	1,140,000	24,000	1,116,000	387,621	217,590	64,386	18,715	52,522	34,408	0	13,423	0
1993		1,851,751	38,190	1,343,000	D	D	444,192	255,195	68,410	18,698	53,725	48,164	0	26,369	0
1995		2,226,046	40,344	1,706,000	33,000	1,673,000	472,982	270,622	42,549	16,873	92,115	50,823	0	6,720	0
1997		2,255,616	42,606	1,707,000	29,000	1,678,000	497,289	283,701	41,073	19,075	97,873	55,567	0	8,721	0
1998		2,501,029	38,021	1,919,000	D	D	535,775	300,185	44,177	20,210	110,606	60,597	0	8,233	0
1999		2,565,541	41,110	1,949,000	72,000	1,877,000	560,648	313,140	44,989	19,771	116,601	66,147	0	14,783	0
2000		2,692,876	37,816	1,981,000	18,000	1,963,000	661,470	348,779	45,576	21,554	176,467	69,094	0	12,590	0
Wyoming															
1987		35,803	8,146	4,000	0	4,000	17,316	8,701	1,129	1,216	6,176	94	0	6,341	0
1989	NA	8,519	D	D	D	23,310	13,804	1,539	1,535	6,226	206	0	20,858	0	
1991		41,037	9,339	2,000	0	2,000	23,009	12,782	1,848	2,000	6,140	239	0	6,689	0
1993		62,907	10,068	15,000	D	D	32,556	14,575	4,111	2,268	10,637	965	0	5,283	0
1995		86,767	8,669	25,000	D	D	40,470	15,373	3,125	1,930	17,454	2,588	0	12,628	0
1997		86,942	8,720	28,000	0	28,000	47,753	15,003	5,990	2,226	23,743	791	0	2,469	0
1998		65,318	11,991	2,000	0	2,000	48,500	17,806	5,366	3,114	21,275	939	0	2,827	0
1999		65,923	15,508	D	0	D	47,197	19,109	2,730	3,206	20,648	1,504	0	3,218	0
2000		60,969	7,298	7,000	0	7,000	43,094	16,556	1,470	2,941	20,103	2,024	0	3,577	0

FFRDC federally funded research and development center; U&C universities and colleges; NA not available; D data withheld to avoid disclosing operations of individual companies or because of imputations of more than 50 percent

^aIncludes performance at industry FFRDCs.^bIndustry sources of industry R&D expenditures include all non-Federal sources of industry R&D expenditures.^cIncludes total R&D expenditures of FFRDCs administered by academic institutions.^dOther sources of support for nonprofit institutions were unavailable by state. For 1987, Federal R&D support to "other nonprofit institutions" and "nonprofit FFRDCs" are combined in the "other nonprofit institutions" totals.

NOTE: Industry R&D data refer to calendar years; other R&D data refer to fiscal years but may serve as approximations to calendar-year data.

SOURCE: National Science Foundation, Division of Science Resources Statistics, *National Patterns of R&D Resources: 2000 Data Update*, NSF 01–309 (Arlington, VA, 2001).