

Appendix table 4-1

Gross domestic product and implicit price deflators: 1953–2007

Year	Calendar year			Fiscal year		
	GDP (\$billions)		GDP price deflator ^a	GDP (\$billions)		GDP price deflator ^a
	Current	Constant 2000		Current	Constant 2000	
1953.....	379.4	2,079.5	0.182	372.9	2,044.0	0.182
1954.....	380.4	2,065.4	0.184	377.3	2,044.6	0.185
1955.....	414.8	2,212.8	0.187	394.6	2,119.9	0.186
1956.....	437.5	2,255.8	0.194	427.2	2,236.2	0.191
1957.....	461.1	2,301.1	0.200	450.3	2,271.6	0.198
1958.....	467.2	2,279.2	0.205	460.5	2,254.8	0.204
1959.....	506.6	2,441.3	0.208	491.5	2,369.5	0.207
1960.....	526.4	2,501.8	0.210	517.9	2,467.0	0.210
1961.....	544.7	2,560.0	0.213	530.8	2,492.8	0.213
1962.....	585.6	2,715.2	0.216	567.6	2,636.0	0.215
1963.....	617.7	2,834.0	0.218	598.7	2,746.0	0.218
1964.....	663.6	2,998.6	0.221	640.4	2,902.6	0.221
1965.....	719.1	3,191.1	0.225	687.1	3,061.6	0.224
1966.....	787.8	3,399.1	0.232	752.9	3,284.6	0.229
1967.....	832.6	3,484.6	0.239	811.8	3,430.8	0.237
1968.....	910.0	3,652.7	0.249	866.6	3,536.9	0.245
1969.....	984.6	3,765.4	0.261	948.6	3,702.4	0.256
1970.....	1,038.5	3,771.9	0.275	1,012.2	3,746.0	0.270
1971.....	1,127.1	3,898.6	0.289	1,079.9	3,806.4	0.284
1972.....	1,238.3	4,105.0	0.302	1,178.3	3,966.0	0.297
1973.....	1,382.7	4,341.5	0.318	1,307.6	4,215.4	0.310
1974.....	1,500.0	4,319.6	0.347	1,439.3	4,327.6	0.333
1975.....	1,638.3	4,311.2	0.380	1,560.7	4,250.5	0.367
1976.....	1,825.3	4,540.9	0.402	1,736.5	4,411.1	0.394
1977.....	2,030.9	4,750.5	0.428	1,974.3	4,665.6	0.423
1978.....	2,294.7	5,015.0	0.458	2,217.0	4,908.7	0.452
1979.....	2,563.3	5,173.4	0.495	2,500.7	5,124.0	0.488
1980.....	2,789.5	5,161.7	0.540	2,726.7	5,136.7	0.531
1981.....	3,128.4	5,291.7	0.591	3,054.7	5,241.4	0.583
1982.....	3,255.0	5,189.3	0.627	3,227.6	5,183.3	0.623
1983.....	3,536.7	5,423.8	0.652	3,440.7	5,291.9	0.650
1984.....	3,933.2	5,813.6	0.677	3,840.2	5,696.1	0.674
1985.....	4,220.3	6,053.7	0.697	4,141.5	5,949.8	0.696
1986.....	4,462.8	6,263.6	0.712	4,412.4	6,194.9	0.712
1987.....	4,739.5	6,475.1	0.732	4,647.1	6,358.4	0.731
1988.....	5,103.8	6,742.7	0.757	5,008.6	6,644.0	0.754
1989.....	5,484.4	6,981.4	0.786	5,400.5	6,896.0	0.783
1990.....	5,803.1	7,112.5	0.816	5,735.4	7,061.3	0.812
1991.....	5,995.9	7,100.5	0.844	5,935.1	7,042.8	0.843
1992.....	6,337.7	7,336.6	0.864	6,239.9	7,223.0	0.864
1993.....	6,657.4	7,532.7	0.884	6,575.5	7,445.3	0.883
1994.....	7,072.2	7,835.5	0.903	6,961.3	7,714.8	0.902
1995.....	7,397.7	8,031.7	0.921	7,325.8	7,948.2	0.922
1996.....	7,816.9	8,328.9	0.939	7,694.1	8,194.5	0.939
1997.....	8,304.3	8,703.5	0.954	8,182.4	8,564.8	0.955
1998.....	8,747.0	9,066.9	0.965	8,627.9	8,918.5	0.967
1999.....	9,268.4	9,470.3	0.979	9,125.3	9,311.0	0.980
2000.....	9,817.0	9,817.0	1.000	9,709.8	9,709.8	1.000
2001.....	10,128.0	9,890.7	1.024	10,057.9	9,885.1	1.017
2002.....	10,469.6	10,048.9	1.042	10,377.4	10,002.4	1.037
2003.....	10,960.8	10,301.1	1.064	10,808.6	10,208.3	1.059
2004.....	11,712.5	10,703.5	1.094	11,517.5	10,614.5	1.085
2005.....	12,455.8	11,048.6	1.127	12,265.8	10,963.4	1.119
2006.....	13,248.3	11,412.4	1.161	13,061.1	11,325.3	1.153
2007.....	13,946.2	11,721.4	1.190	13,761.2	11,637.4	1.182

GDP = gross domestic product

^a2000 = 1.

NOTE: Projected data for 2007.

SOURCE: Office of Management and Budget, Budget of the United States, Fiscal Year 2008 (2007), based on Bureau of Economic Analysis (various years), <http://www.bea.gov>.

Appendix table 4-2

Purchasing power parity and market exchange rate/purchasing power parity ratios, by selected country: 1981–2006

(Foreign currency/U.S. dollars)

Year	PPP										MER/PPP				
	Canada	China	France	Germany ^a	Italy	Japan	South Korea	Russian Federation	Taiwan	United Kingdom	China	Germany ^a	Japan	South Korea	Taiwan
1981.....	1.17	—	0.84	1.07	0.41	220.04	415.89	—	—	0.49	—	1.08	1.00	1.64	—
1982.....	1.20	—	0.89	1.06	0.46	211.84	418.15	—	—	0.50	—	1.17	1.18	1.75	—
1983.....	1.21	—	0.94	1.05	0.50	208.60	427.23	—	—	0.50	—	1.24	1.14	1.82	—
1984.....	1.21	—	0.97	1.03	0.54	207.48	436.49	—	—	0.51	—	1.41	1.14	1.85	—
1985.....	1.21	—	0.99	1.02	0.57	205.95	443.68	—	—	0.52	—	1.47	1.16	1.96	—
1986.....	1.22	—	1.02	1.03	0.60	204.82	457.91	—	—	0.53	—	1.07	0.82	1.92	—
1987.....	1.24	—	1.02	1.02	0.62	199.88	470.79	—	—	0.54	—	0.90	0.72	1.75	—
1988.....	1.25	—	1.02	1.01	0.64	194.73	489.80	—	—	0.55	—	0.89	0.66	1.49	—
1989.....	1.26	—	1.01	0.99	0.66	191.94	498.96	—	—	0.57	—	0.97	0.72	1.35	—
1990.....	1.25	1.25	0.99	0.98	0.69	189.24	530.91	—	20.12	0.59	3.81	0.84	0.77	1.33	1.35
1991.....	1.25	1.29	0.98	0.99	0.72	188.22	567.69	—	20.19	0.61	4.12	0.86	0.72	1.29	1.28
1992.....	1.23	1.36	0.98	1.01	0.73	186.98	597.20	0.02	20.44	0.62	4.05	0.79	0.68	1.31	1.24
1993.....	1.22	1.54	0.97	1.02	0.74	183.75	620.86	0.17	20.68	0.62	3.74	0.82	0.61	1.29	1.29
1994.....	1.21	1.82	0.97	1.03	0.75	180.12	655.67	0.69	20.70	0.62	4.73	0.81	0.57	1.23	1.27
1995.....	1.22	2.00	0.96	1.03	0.78	175.49	690.04	1.65	20.72	0.62	4.17	0.71	0.54	1.12	1.32
1996.....	1.21	2.10	0.95	1.01	0.79	170.87	711.81	2.35	20.99	0.63	3.97	0.76	0.64	1.13	1.31
1997.....	1.21	2.10	0.93	1.01	0.81	168.68	732.44	2.63	21.04	0.62	3.95	0.88	0.72	1.30	1.55
1998.....	1.19	2.05	0.93	1.01	0.80	166.54	766.56	3.02	21.40	0.63	4.04	0.89	0.79	1.83	1.51
1999.....	1.19	1.99	0.93	1.00	0.81	162.04	754.89	5.15	20.90	0.64	4.15	0.94	0.70	1.57	1.50
2000.....	1.23	2.00	0.92	0.98	0.81	154.90	753.19	7.04	20.12	0.63	4.14	1.11	0.70	1.50	1.64
2001.....	1.22	1.99	0.90	0.98	0.82	149.29	761.49	8.10	19.76	0.62	4.16	1.14	0.81	1.70	1.77
2002.....	1.23	1.98	0.90	0.96	0.82	143.67	778.77	9.17	19.31	0.61	4.19	1.11	0.87	1.61	1.80
2003.....	1.24	2.00	0.90	0.95	0.84	138.87	784.03	10.14	18.56	0.63	4.13	0.93	0.83	1.52	1.83
2004.....	1.25	2.09	0.91	0.93	0.85	133.72	784.26	11.94	17.87	0.63	3.96	0.86	0.81	1.46	1.79
2005.....	1.25	2.13	0.90	0.91	0.85	128.78	763.64	13.85	17.38	0.63	3.85	0.88	0.86	1.34	1.89
2006.....	1.25	—	0.89	0.89	0.84	124.27	748.70	—	16.73	0.62	—	—	—	—	—

— = data not used

MER = market exchange rate; PPP = purchasing power parity

^aData for 1981–90 for West Germany.

SOURCE: Organisation for Economic Co-operation and Development, Main Science and Technology Indicators (2006).

Science and Engineering Indicators 2008

Appendix table 4-3

U.S. R&D expenditures, by performing and funding sectors: 1953–2006

(Millions of current dollars)

Year	Performing sector:		Industry				U&C ^a						Other nonprofit institutions				Nonprofit FFRDCs ^b	
	Total	Federal	Total	Federal ^c	Industry ^d	Federal ^e	Total	Federal	Nonfederal ^e	Industry	U&C	Nonprofit	Federal ^f	Total	Federal ^c	Industry	Nonprofit	Federal ^e
Funding sector:	Total	Federal	Total	Federal ^c	Industry ^d	Federal ^e	Total	Federal	Nonfederal ^e	Industry	U&C	Nonprofit	Federal ^f	Total	Federal ^c	Industry	Nonprofit	Federal ^e
1953.....	5,160	1,015	3,630	1,430	2,200	NA	273	149	40	21	37	27	131	112	58	26	28	NA
1954.....	5,617	963	4,070	1,750	2,320	NA	301	165	45	24	40	29	161	123	61	31	31	NA
1955.....	6,281	973	4,517	2,057	2,460	123	342	191	50	27	42	32	187	131	64	35	32	9
1956.....	8,500	1,130	6,272	2,995	3,277	333	391	221	57	32	46	36	217	146	71	37	38	11
1957.....	9,908	1,297	7,324	3,928	3,396	407	433	242	64	37	51	40	267	167	79	37	51	14
1958.....	10,915	1,507	8,066	4,436	3,630	323	491	280	72	39	56	45	316	195	95	38	62	18
1959.....	12,490	1,681	9,200	5,217	3,983	418	586	356	81	40	61	50	349	234	125	42	67	22
1960.....	13,711	1,801	10,032	5,604	4,428	477	705	453	90	40	67	55	385	264	148	48	68	48
1961.....	14,564	1,987	10,353	5,685	4,668	555	834	557	101	40	75	62	440	304	169	49	86	92
1962.....	15,636	2,188	11,037	6,008	5,029	426	993	687	112	41	84	70	500	363	200	54	109	130
1963.....	17,519	2,558	12,216	6,856	5,360	414	1,178	839	125	41	96	78	580	408	234	55	119	165
1964.....	19,103	2,965	13,049	7,257	5,792	463	1,375	995	138	41	114	88	629	417	250	55	112	205
1965.....	20,252	3,156	13,812	7,367	6,445	373	1,595	1,167	150	42	136	101	630	472	286	62	124	215
1966.....	22,072	3,308	15,193	7,977	7,216	355	1,818	1,335	160	45	165	114	652	537	329	70	138	210
1967.....	23,346	3,444	15,966	7,946	8,020	419	2,035	1,491	168	52	200	126	696	561	342	74	145	225
1968.....	24,666	3,497	17,014	8,145	8,869	415	2,187	1,586	185	58	221	139	722	596	364	81	151	235
1969.....	25,996	3,790	17,844	7,987	9,857	464	2,280	1,624	208	61	233	155	731	642	388	93	161	245
1970.....	26,271	4,154	17,594	7,306	10,288	473	2,418	1,686	237	66	259	171	727	677	410	95	172	230
1971.....	26,952	4,409	17,829	7,175	10,654	491	2,565	1,760	262	72	290	182	735	709	427	98	184	215
1972.....	28,740	4,676	19,004	7,469	11,535	548	2,757	1,890	282	79	312	195	785	771	472	101	198	200
1973.....	30,952	4,837	20,704	7,600	13,104	545	2,953	2,009	302	90	343	211	841	882	566	105	211	190
1974.....	33,359	5,132	22,239	7,572	14,667	648	3,216	2,160	320	104	393	239	926	988	639	114	235	210
1975.....	35,671	5,561	23,460	7,878	15,582	727	3,570	2,400	348	118	432	272	1,067	1,062	675	124	262	225
1976.....	39,435	5,890	26,107	8,671	17,436	890	3,899	2,619	369	131	480	300	1,266	1,139	711	135	292	245
1977.....	43,338	6,211	28,863	9,523	19,340	962	4,346	2,893	394	155	569	337	1,467	1,213	740	147	326	275
1978.....	48,719	6,962	32,222	10,107	22,115	1,082	4,996	3,329	443	182	679	364	1,772	1,353	830	160	363	333
1979.....	55,379	7,471	37,062	11,354	25,708	1,164	5,715	3,848	482	215	785	386	2,013	1,564	985	174	405	390
1980.....	63,224	7,831	43,228	12,752	30,476	1,277	6,455	4,335	519	264	920	419	2,306	1,658	1,017	189	452	469
1981.....	72,292	8,605	50,425	14,997	35,428	1,385	7,085	4,670	581	314	1,058	463	2,484	1,784	1,075	206	504	524
1982.....	80,748	9,501	57,166	17,061	40,105	1,484	7,603	4,879	621	363	1,207	534	2,544	1,915	1,129	224	561	536
1983.....	89,950	10,830	63,683	19,095	44,588	1,585	8,251	5,210	658	432	1,357	595	2,840	2,176	1,306	244	626	585
1984.....	102,244	11,916	73,061	21,657	51,404	1,739	9,154	5,748	721	518	1,514	654	3,243	2,511	1,548	265	698	620
1985.....	114,671	13,093	82,376	25,333	57,043	1,863	10,308	6,388	834	630	1,743	713	3,616	2,761	1,694	289	778	655
1986.....	120,249	13,504	85,932	26,000	59,932	1,891	11,540	7,028	969	745	2,019	780	3,973	2,867	1,686	314	867	541
1987.....	126,360	13,588	90,160	28,757	61,403	1,995	12,807	7,768	1,065	831	2,262	882	4,287	3,013	1,704	342	967	509
1988.....	133,880	14,342	94,893	28,221	66,672	2,122	14,220	8,592	1,165	933	2,527	1,003	4,581	3,213	1,762	372	1,078	510
1989.....	141,889	15,231	99,860	26,359	73,501	2,195	15,632	9,315	1,274	1,061	2,852	1,131	4,756	3,669	2,062	405	1,202	547
1990.....	151,990	15,671	107,404	25,802	81,602	2,323	16,936	9,936	1,399	1,166	3,187	1,249	4,894	4,126	2,346	440	1,340	636
1991.....	160,872	15,249	114,675	24,095	90,580	2,277	18,203	10,664	1,483	1,242	3,457	1,358	5,120	4,652	2,679	479	1,494	696

U.S. R&D expenditures, by performing and funding sectors: 1953–2006

(Millions of current dollars)

Year	Performing sector:		Industry				U&C ^a						Other nonprofit institutions				Nonprofit FFRDCs ^b	
	Total	Federal	Total	Federal ^c	Industry ^d	Federal ^e	Total	Federal	Nonfederal ^g	Industry	U&C	Nonprofit	Federal ^f	Total	Federal ^c	Industry	Nonprofit	Federal ^c
1992.....	165,347	15,853	116,757	22,369	94,388	2,353	19,385	11,525	1,525	1,320	3,568	1,448	5,259	4,993	2,806	521	1,666	748
1993.....	165,726	16,531	115,435	20,844	94,591	1,965	20,490	12,304	1,557	1,391	3,709	1,531	5,289	5,267	2,843	567	1,857	749
1994.....	169,201	16,355	117,392	20,261	97,131	2,202	21,601	12,992	1,622	1,456	3,938	1,594	5,294	5,599	2,911	617	2,071	758
1995.....	183,618	16,904	129,830	21,178	108,652	2,273	22,610	13,587	1,751	1,547	4,110	1,616	5,367	5,827	2,847	671	2,308	808
1996.....	197,338	16,585	142,371	21,356	121,015	2,297	23,709	14,078	1,860	1,671	4,435	1,666	5,395	6,209	2,906	730	2,574	772
1997.....	212,142	16,819	155,409	21,798	133,611	2,130	24,875	14,523	1,921	1,807	4,837	1,786	5,463	6,626	3,014	809	2,804	821
1998.....	226,455	17,362	167,102	22,086	145,016	2,078	26,169	15,166	1,971	1,949	5,162	1,921	5,559	7,341	3,281	880	3,180	843
1999.....	245,036	17,851	182,090	20,496	161,594	2,039	28,163	16,253	2,098	2,082	5,618	2,111	5,652	8,249	3,761	984	3,504	993
2000.....	267,557	17,917	199,961	17,117	182,844	2,001	30,688	17,714	2,246	2,174	6,230	2,325	5,742	9,782	4,447	1,118	4,217	1,465
2001.....	277,736	20,426	202,017	16,899	185,118	2,020	33,723	19,769	2,396	2,189	6,824	2,545	6,225	11,133	5,289	1,132	4,712	2,192
2002.....	276,591	21,499	193,868	16,401	177,467	2,263	37,191	22,376	2,556	2,160	7,341	2,758	7,102	12,348	5,731	1,084	5,534	2,319
2003.....	289,025	22,752	200,724	17,798	182,926	2,458	40,457	25,106	2,740	2,129	7,648	2,833	7,301	12,839	5,686	1,118	6,035	2,494
2004.....	300,060	23,044	208,301	20,266	188,035	2,485	43,090	27,140	2,882	2,190	7,932	2,946	7,658	12,838	5,671	1,151	6,016	2,644
2005.....	323,041	24,744	226,159	21,909	204,250	2,565	45,148	28,177	2,945	2,332	8,573	3,122	7,786	13,824	5,791	1,253	6,779	2,815
2006.....	340,429	24,408	242,129	22,560	219,569	2,426	46,642	28,548	3,057	2,452	9,297	3,288	7,720	14,272	5,721	1,350	7,200	2,834

NA = not available

FFRDC = federally funded research and development center; U&C = universities and colleges

^aAdjustments made to university R&D for 1998 on to eliminate double counting of funds passed through from one academic institution to another. Data for 1998 on not directly comparable with data for 1997 and earlier. For FY 1998, \$479 million in passthrough funds reported. For FY 2006, \$1,630 million in passthrough funds estimated.

^bBeginning in 2001, data for nonprofit FFRDCs reported by FFRDCs. In prior years, data collected from federal agencies supporting them.

^cExpenditures of industry FFRDCs for 1953–54 not separated from total federal support to industrial sector; therefore, value for federal support to industry includes support to FFRDCs for those years. Similarly for expenditures of nonprofit FFRDCs, included in federal support for nonprofit institutions in 1953–54.

^dIndustry sources of industry R&D expenditures include all nonfederal sources of industry R&D expenditures.

^eBecause of limitations in survey information, data on nonfederal government funding to other performers not available and consequently included in other sectors' support for their own R&D, e.g., nonfederal government support to nonprofits is included in nonprofit support for their own R&D.

^fIncludes all R&D expenditures of FFRDCs administered by academic institutions.

NOTES: All data for calendar years. For some performers, these levels are approximations based on fiscal year data. For federal government expenditures starting in 1977, calendar-year approximation is 75% of amount reported in same fiscal year plus 25% of amount reported in subsequent fiscal year. Academic expenditures in all years and federal government expenditures before 1977 each 50% because those fiscal years (for most academic institutions and federal government before 1977) began on 1 July instead of 1 October. Technical notes explaining methodological issues of measurement available from National Science Foundation (NSF), Division of Science Resources Statistics (SRS) on request. Data based on annual reports by performers except for nonprofit sector. Preliminary data for 2005 and 2006. For trend comparisons, use only historical data reported here. Table incorporates latest revisions to prior-year data. Do not use data published earlier.

SOURCES: NSF/SRS, Research and Development in Industry 2005 (forthcoming); Academic Research and Development Expenditures: Fiscal Year 2005 (2007); Federal Funds for Research and Development: Fiscal Years 2004, 2005, and 2006 (2007); and Survey of Research and Development Funding and Performance by Nonprofit Organizations: FY 1996–97 (2001).

Appendix table 4-4

U.S. inflation-adjusted R&D expenditures, by performing and funding sectors: 1953–2006

(Millions of constant 2000 dollars)

Year	Performing sector:		Industry				U&C ^a		U&C FFRDCs		Other nonprofit institutions				Nonprofit FFRDCs ^b			
	Total	Federal	Total	Federal ^c	Industry ^d	Federal ^e	Total	Federal	Nonfederal ^e	Industry	U&C	Nonprofit	Federal ^f	Total	Federal ^g	Industry	Nonprofit	Federal ^h
	Funding sector:	Total	Federal	Total	Federal ^c	Industry ^d	Federal ^e	Total	Federal	Nonfederal ^e	Industry	U&C	Nonprofit	Federal ^f	Total	Federal ^g	Industry	Nonprofit
1953.....	28,282	5,563	19,896	7,838	12,058	NA	1,494	817	217	112	200	148	718	611	315	143	153	NA
1954.....	30,495	5,226	22,098	9,502	12,597	NA	1,634	893	242	128	214	157	871	665	328	168	168	NA
1955.....	33,508	5,189	24,096	10,973	13,123	656	1,824	1,019	267	144	224	171	998	699	341	187	171	45
1956.....	43,827	5,829	32,339	15,443	16,897	1,717	2,016	1,140	291	162	237	186	1,119	750	364	191	196	57
1957.....	49,447	6,474	36,550	19,603	16,948	2,031	2,161	1,205	319	182	255	200	1,330	831	392	185	255	70
1958.....	53,248	7,350	39,349	21,641	17,709	1,576	2,395	1,366	351	190	271	217	1,539	951	463	185	302	88
1959.....	60,187	8,101	44,335	25,141	19,194	2,014	2,824	1,713	388	190	294	239	1,682	1,125	600	202	323	106
1960.....	65,164	8,558	47,679	26,634	21,045	2,267	3,348	2,151	428	190	318	261	1,830	1,255	703	228	323	228
1961.....	68,450	9,340	48,657	26,719	21,939	2,608	3,917	2,615	472	188	350	291	2,068	1,429	794	230	404	430
1962.....	72,499	10,143	51,174	27,857	23,318	1,975	4,602	3,183	519	188	389	322	2,318	1,683	927	250	505	603
1963.....	80,377	11,738	56,047	31,455	24,592	1,899	5,405	3,847	573	186	440	358	2,659	1,872	1,074	252	546	757
1964.....	86,320	13,399	58,964	32,792	26,172	2,092	6,211	4,496	621	183	513	398	2,842	1,884	1,130	249	506	926
1965.....	89,872	14,006	61,293	32,692	28,601	1,655	7,076	5,179	663	184	604	446	2,793	2,095	1,269	275	550	954
1966.....	95,232	14,272	65,553	34,418	31,135	1,532	7,844	5,760	690	194	710	490	2,811	2,315	1,417	302	595	906
1967.....	97,709	14,416	66,821	33,256	33,565	1,754	8,517	6,238	703	216	835	525	2,913	2,348	1,431	310	607	942
1968.....	99,009	14,037	68,293	32,694	35,600	1,666	8,779	6,366	741	231	885	556	2,898	2,392	1,461	325	606	943
1969.....	99,415	14,495	68,241	30,545	37,696	1,774	8,719	6,209	795	231	891	593	2,796	2,453	1,482	356	616	937
1970.....	95,419	15,087	63,903	26,536	37,367	1,718	8,781	6,122	861	238	939	621	2,639	2,457	1,487	345	625	835
1971.....	93,225	15,250	61,670	24,818	36,852	1,698	8,872	6,086	906	249	1,001	630	2,541	2,451	1,475	339	636	744
1972.....	95,275	15,500	62,999	24,760	38,239	1,817	9,140	6,265	935	262	1,033	645	2,602	2,554	1,563	335	656	663
1973.....	97,184	15,186	65,008	23,863	41,145	1,711	9,272	6,306	947	281	1,077	661	2,641	2,769	1,777	330	663	597
1974.....	96,065	14,780	64,042	21,805	42,237	1,866	9,260	6,220	922	299	1,130	688	2,667	2,845	1,839	329	677	605
1975.....	93,870	14,635	61,735	20,731	41,004	1,913	9,393	6,316	916	311	1,135	716	2,808	2,793	1,776	327	690	592
1976.....	98,104	14,653	64,948	21,571	43,377	2,214	9,699	6,515	918	326	1,194	745	3,148	2,833	1,769	336	727	610
1977.....	101,372	14,529	67,514	22,275	45,238	2,250	10,166	6,766	922	361	1,330	787	3,432	2,838	1,732	344	763	643
1978.....	106,474	15,216	70,420	22,089	48,332	2,365	10,918	7,274	968	397	1,484	794	3,872	2,958	1,814	350	794	727
1979.....	111,769	15,079	74,801	22,915	51,885	2,349	11,533	7,766	972	433	1,584	778	4,062	3,157	1,988	351	818	787
1980.....	116,990	14,490	79,989	23,596	56,393	2,363	11,944	8,021	959	488	1,701	775	4,267	3,069	1,882	351	836	867
1981.....	122,282	14,555	85,294	25,367	59,927	2,343	11,984	7,898	983	531	1,789	783	4,202	3,018	1,818	349	852	886
1982.....	128,733	15,147	91,137	27,200	63,938	2,366	12,120	7,778	990	579	1,923	851	4,055	3,053	1,800	358	895	854
1983.....	137,944	16,608	97,663	29,284	68,379	2,431	12,654	7,990	1,009	663	2,080	912	4,356	3,336	2,002	374	960	898
1984.....	151,125	17,612	107,990	32,011	75,979	2,570	13,530	8,495	1,066	765	2,238	966	4,794	3,712	2,288	392	1,032	917
1985.....	164,486	18,781	118,162	36,338	81,824	2,672	14,785	9,163	1,196	904	2,500	1,023	5,187	3,960	2,429	414	1,116	939
1986.....	168,770	18,954	120,607	36,491	84,115	2,654	16,197	9,863	1,360	1,046	2,833	1,095	5,576	4,024	2,366	441	1,218	759
1987.....	172,633	18,565	123,176	39,288	83,889	2,726	17,497	10,613	1,454	1,135	3,090	1,204	5,857	4,117	2,328	467	1,321	696
1988.....	176,871	18,948	125,364	37,283	88,081	2,803	18,786	11,351	1,539	1,233	3,338	1,325	6,052	4,244	2,328	491	1,424	673
1989.....	180,618	19,388	127,117	33,554	93,564	2,794	19,899	11,857	1,622	1,350	3,630	1,440	6,054	4,670	2,625	515	1,530	696
1990.....	186,284	19,207	131,638	31,624	100,015	2,847	20,757	12,178	1,715	1,428	3,905	1,531	5,998	5,057	2,875	540	1,643	780
1991.....	190,509	18,059	135,801	28,534	107,267	2,696	21,556	12,628	1,756	1,470	4,094	1,608	6,064	5,509	3,172	567	1,769	824

U.S. inflation-adjusted R&D expenditures, by performing and funding sectors: 1953–2006

(Millions of constant 2000 dollars)

Year	Performing sector:		Federal	Industry			Industry FFRDCs	U&C ^a					U&C FFRDCs	Other nonprofit institutions				Nonprofit FFRDCs ^b
	Total	Federal		Total	Federal ^c	Industry ^d		Total	Federal	Nonfederal ^e	Industry	U&C		Nonprofit	Federal ^f	Total	Federal ^c	
1992.....	191,408	18,352	135,159	25,895	109,265	2,724	22,440	13,341	1,765	1,527	4,130	1,676	6,088	5,780	3,248	603	1,928	865
1993.....	187,515	18,704	130,612	23,585	107,028	2,223	23,184	13,921	1,761	1,574	4,196	1,732	5,984	5,960	3,217	642	2,101	848
1994.....	187,463	18,120	130,062	22,448	107,614	2,440	23,932	14,394	1,797	1,613	4,363	1,766	5,865	6,203	3,225	683	2,294	840
1995.....	199,355	18,352	140,957	22,993	117,964	2,468	24,548	14,751	1,901	1,680	4,462	1,754	5,827	6,326	3,091	729	2,506	877
1996.....	210,263	17,671	151,696	22,755	128,941	2,447	25,262	15,000	1,982	1,780	4,725	1,775	5,748	6,616	3,096	778	2,742	822
1997.....	222,340	17,628	162,880	22,846	140,034	2,232	26,070	15,221	2,014	1,894	5,070	1,872	5,725	6,945	3,159	848	2,938	860
1998.....	234,737	17,997	173,213	22,894	150,320	2,154	27,126	15,721	2,043	2,020	5,351	1,991	5,763	7,610	3,401	912	3,297	874
1999.....	250,374	18,240	186,056	20,942	165,114	2,084	28,776	16,608	2,143	2,127	5,741	2,157	5,775	8,429	3,843	1,006	3,581	1,014
2000.....	267,556	17,917	199,961	17,117	182,844	2,001	30,688	17,714	2,246	2,174	6,230	2,325	5,742	9,782	4,447	1,118	4,217	1,465
2001.....	271,229	19,948	197,284	16,503	180,781	1,973	32,933	19,305	2,340	2,138	6,664	2,485	6,080	10,872	5,165	1,106	4,601	2,140
2002.....	265,475	20,635	186,077	15,742	170,335	2,172	35,696	21,477	2,453	2,073	7,046	2,647	6,817	11,852	5,501	1,040	5,311	2,226
2003.....	271,630	21,383	188,644	16,727	171,917	2,310	38,022	23,595	2,575	2,001	7,188	2,662	6,861	12,066	5,344	1,051	5,671	2,344
2004.....	274,211	21,059	190,357	18,520	171,837	2,271	39,378	24,802	2,634	2,002	7,249	2,692	6,998	11,732	5,183	1,051	5,498	2,416
2005.....	286,545	21,948	200,609	19,434	181,175	2,275	40,048	24,993	2,612	2,068	7,605	2,769	6,906	12,262	5,137	1,112	6,013	2,497
2006.....	293,254	21,025	208,576	19,434	189,142	2,090	40,178	24,592	2,634	2,113	8,009	2,832	6,650	12,294	4,928	1,163	6,202	2,441

NA = not available

FFRDC = federally funded research and development center; U&C = universities and colleges

^aAdjustments made to university R&D for 1998 on to eliminate double counting of funds passed through from one academic institution to another. Data for 1998 on not directly comparable with data for 1997 and earlier. For FY 1998, \$479 million in passthrough funds reported. For FY 2006, \$1,630 million in passthrough funds estimated.

^bBeginning in 2001, data for nonprofit FFRDCs reported by FFRDCs. In prior years, data collected from federal agencies supporting them.

^cExpenditures of industry FFRDCs for 1953–54 not separated from total federal support to industrial sector; therefore, value for federal support to industry includes support to FFRDCs for those years. Similarly for expenditures of nonprofit FFRDCs, included in federal support for nonprofit institutions in 1953–54.

^dIndustry sources of industry R&D expenditures include all nonfederal sources of industry R&D expenditures.

^eBecause of limitations in survey information, data on nonfederal government funding to other performers not available and consequently included in other sectors' support for their own R&D, e.g., nonfederal government support to nonprofits is included in nonprofit support for their own R&D.

^fIncludes all R&D expenditures of FFRDCs administered by academic institutions.

NOTES: All data for calendar years. For some performers, these levels are approximations based on fiscal year data. For federal government expenditures starting in 1977, calendar-year approximation is 75% of amount reported in same fiscal year plus 25% of amount reported in subsequent fiscal year. Academic expenditures in all years and federal government expenditures before 1977 each 50% because those fiscal years (for most academic institutions and federal government before 1977) began on 1 July instead of 1 October. Technical notes explaining methodological issues of measurement available from National Science Foundation (NSF), Division of Science Resources Statistics (SRS) on request. Data based on annual reports by performers except for nonprofit sector. Preliminary data for 2005 and 2006. For trend comparisons, use only historical data reported here. Table incorporates latest revisions to prior-year data. Do not use data published earlier.

SOURCES: NSF/SRS, Research and Development in Industry 2005 (forthcoming); Academic Research and Development Expenditures: Fiscal Year 2005 (2007); Federal Funds for Research and Development: Fiscal Years 2004, 2005, and 2006 (2007); and Survey of Research and Development Funding and Performance by Nonprofit Organizations: FY 1996–97 (2001).

U.S. R&D expenditures, by funding and performing sectors: 1953–2006

(Millions of current dollars)

Year	Funding sector:	Total																		
	Performing sector:	Total	Federal								Industry				U&C	Nonprofit		Nonfederal ^a		
		Total	Total	Federal	Industry ^b	Industry FFRDCs ^b	U&C ^c	U&C FFRDCs ^d	Nonprofit ^e	Nonprofit FFRDCs ^{b,e}	Total	Industry ^f	U&C ^c	Nonprofit	U&C ^c	Total	Nonprofit	U&C ^c	U&C ^c	
1953.....		5,160	2,783	1,015	1,430	NA	149	131	58	NA	2,247	2,200	21	26	37	55	28	27	40	
1954.....		5,617	3,098	963	1,750	NA	165	161	61	NA	2,375	2,320	24	31	40	60	31	29	45	
1955.....		6,281	3,603	973	2,057	123	191	187	64	9	2,522	2,460	27	35	42	64	32	32	50	
1956.....		8,500	4,978	1,130	2,995	333	221	217	71	11	3,346	3,277	32	37	46	74	38	36	57	
1957.....		9,908	6,233	1,297	3,928	407	242	267	79	14	3,470	3,396	37	37	51	91	51	40	64	
1958.....		10,915	6,974	1,507	4,436	323	280	316	95	18	3,707	3,630	39	38	56	107	62	45	72	
1959.....		12,490	8,167	1,681	5,217	418	356	349	125	22	4,065	3,983	40	42	61	117	67	50	81	
1960.....		13,711	8,915	1,801	5,604	477	453	385	148	48	4,516	4,428	40	48	67	123	68	55	90	
1961.....		14,564	9,484	1,987	5,685	555	557	440	169	92	4,757	4,668	40	49	75	148	86	62	101	
1962.....		15,636	10,138	2,188	6,008	426	687	500	200	130	5,124	5,029	41	54	84	179	109	70	112	
1963.....		17,519	11,645	2,558	6,856	414	839	580	234	165	5,456	5,360	41	55	96	197	119	78	125	
1964.....		19,103	12,764	2,965	7,257	463	995	629	250	205	5,888	5,792	41	55	114	200	112	88	138	
1965.....		20,252	13,194	3,156	7,367	373	1,167	630	286	215	6,549	6,445	42	62	136	225	124	101	150	
1966.....		22,072	14,165	3,308	7,977	355	1,335	652	329	210	7,331	7,216	45	70	165	252	138	114	160	
1967.....		23,346	14,563	3,444	7,946	419	1,491	696	342	225	8,146	8,020	52	74	200	271	145	126	168	
1968.....		24,666	14,964	3,497	8,145	415	1,586	722	364	235	9,008	8,869	58	81	221	290	151	139	185	
1969.....		25,996	15,228	3,790	7,987	464	1,624	731	388	245	10,011	9,857	61	93	233	316	161	155	208	
1970.....		26,271	14,984	4,154	7,306	473	1,686	727	410	230	10,449	10,288	66	95	259	343	172	171	237	
1971.....		26,952	15,210	4,409	7,175	491	1,760	735	427	215	10,824	10,654	72	98	290	366	184	182	262	
1972.....		28,740	16,039	4,676	7,469	548	1,890	785	472	200	11,715	11,535	79	101	312	393	198	195	282	
1973.....		30,952	16,587	4,837	7,600	545	2,009	841	566	190	13,299	13,104	90	105	343	422	211	211	302	
1974.....		33,359	17,287	5,132	7,572	648	2,160	926	639	210	14,885	14,667	104	114	393	474	235	239	320	
1975.....		35,671	18,533	5,561	7,878	727	2,400	1,067	675	225	15,824	15,582	118	124	432	534	262	272	348	
1976.....		39,435	20,292	5,890	8,671	890	2,619	1,266	711	245	17,702	17,436	131	135	480	592	292	300	369	
1977.....		43,338	22,071	6,211	9,523	962	2,893	1,467	740	275	19,642	19,340	155	147	569	662	326	337	394	
1978.....		48,719	24,414	6,962	10,107	1,082	3,329	1,772	830	333	22,457	22,115	182	160	679	727	363	364	443	
1979.....		55,379	27,225	7,471	11,354	1,164	3,848	2,013	985	390	26,097	25,708	215	174	785	791	405	386	482	
1980.....		63,224	29,986	7,831	12,752	1,277	4,335	2,306	1,017	469	30,929	30,476	264	189	920	871	452	419	519	
1981.....		72,292	33,739	8,605	14,997	1,385	4,670	2,484	1,075	524	35,948	35,428	314	206	1,058	967	504	463	581	
1982.....		80,748	37,133	9,501	17,061	1,484	4,879	2,544	1,129	536	40,692	40,105	363	224	1,207	1,095	561	534	621	
1983.....		89,950	41,451	10,830	19,095	1,585	5,210	2,840	1,306	585	45,264	44,588	432	244	1,357	1,220	626	595	658	
1984.....		102,244	46,470	11,916	21,657	1,739	5,748	3,243	1,548	620	52,187	51,404	518	265	1,514	1,351	698	654	721	
1985.....		114,671	52,641	13,093	25,333	1,863	6,388	3,616	1,694	655	57,962	57,043	630	289	1,743	1,491	778	713	834	
1986.....		120,249	54,622	13,504	26,000	1,891	7,028	3,973	1,686	541	60,991	59,932	745	314	2,019	1,647	867	780	969	
1987.....		126,360	58,609	13,588	28,757	1,995	7,768	4,287	1,704	509	62,576	61,403	831	342	2,262	1,849	967	882	1,065	
1988.....		133,880	60,130	14,342	28,221	2,122	8,592	4,581	1,762	510	67,977	66,672	933	372	2,527	2,081	1,078	1,003	1,165	
1989.....		141,889	60,464	15,231	26,359	2,195	9,315	4,756	2,062	547	74,966	73,501	1,061	405	2,852	2,333	1,202	1,131	1,274	
1990.....		151,990	61,607	15,671	25,802	2,323	9,936	4,894	2,346	636	83,208	81,602	1,166	440	3,187	2,589	1,340	1,249	1,399	
1991.....		160,872	60,780	15,249	24,095	2,277	10,664	5,120	2,679	696	92,300	90,580	1,242	479	3,457	2,852	1,494	1,358	1,483	

U.S. R&D expenditures, by funding and performing sectors: 1953–2006

(Millions of current dollars)

Year	Funding sector:	Performing sector:																	
	Total	Total	Federal					Industry				U&C	Nonprofit		Nonfederal ^a				
	Total	Total	Federal	Industry ^b	FFRDCs ^b	U&C ^c	U&C FFRDCs ^d	Nonprofit ^e	FFRDCs ^{b,e}	Total	Industry ^f	U&C ^c	Nonprofit	U&C ^c	Total	Nonprofit	U&C ^c	U&C ^c	
1992.....	165,347	60,912	15,853	22,369	2,353	11,525	5,259	2,806	748	96,229	94,388	1,320	521	3,568	3,113	1,666	1,448	1,525	
1993.....	165,726	60,524	16,531	20,844	1,965	12,304	5,289	2,843	749	96,549	94,591	1,391	567	3,709	3,388	1,857	1,531	1,557	
1994.....	169,201	60,773	16,355	20,261	2,202	12,992	5,294	2,911	758	99,203	97,131	1,456	617	3,938	3,665	2,071	1,594	1,622	
1995.....	183,618	62,964	16,904	21,178	2,273	13,587	5,367	2,847	808	110,870	108,652	1,547	671	4,110	3,924	2,308	1,616	1,751	
1996.....	197,338	63,388	16,585	21,356	2,297	14,078	5,395	2,906	772	123,416	121,015	1,671	730	4,435	4,239	2,574	1,666	1,860	
1997.....	212,142	64,567	16,819	21,798	2,130	14,523	5,463	3,014	821	136,227	133,611	1,807	809	4,837	4,590	2,804	1,786	1,921	
1998.....	226,455	66,375	17,362	22,086	2,078	15,166	5,559	3,281	843	147,845	145,016	1,949	880	5,162	5,101	3,180	1,921	1,971	
1999.....	245,036	67,045	17,851	20,496	2,039	16,253	5,652	3,761	993	164,660	161,594	2,082	984	5,618	5,616	3,504	2,111	2,098	
2000.....	267,557	66,403	17,917	17,117	2,001	17,714	5,742	4,447	1,465	186,135	182,844	2,174	1,118	6,230	6,542	4,217	2,325	2,246	
2001.....	277,736	72,820	20,426	16,899	2,020	19,769	6,225	5,289	2,192	188,439	185,118	2,189	1,132	6,824	7,256	4,712	2,545	2,396	
2002.....	276,591	77,691	21,499	16,401	2,263	22,376	7,102	5,731	2,319	180,711	177,467	2,160	1,084	7,341	8,291	5,534	2,758	2,556	
2003.....	289,025	83,596	22,752	17,798	2,458	25,106	7,301	5,686	2,494	186,174	182,926	2,129	1,118	7,648	8,868	6,035	2,833	2,740	
2004.....	300,060	88,908	23,044	20,266	2,485	27,140	7,658	5,671	2,644	191,376	188,035	2,190	1,151	7,932	8,962	6,016	2,946	2,882	
2005.....	323,041	93,787	24,744	21,909	2,565	28,177	7,786	5,791	2,815	207,835	204,250	2,332	1,253	8,573	9,901	6,779	3,122	2,945	
2006.....	340,429	94,216	24,408	22,560	2,426	28,548	7,720	5,721	2,834	223,371	219,569	2,452	1,350	9,297	10,488	7,200	3,288	3,057	

NA = not available

FFRDC = federally funded research and development center; U&C = universities and colleges

^aBecause of limitations in survey information, data on nonfederal government funding to other performers not available and consequently included in other sectors' support for their own R&D, e.g., nonfederal government support to nonprofits is included in nonprofit support for their own R&D.

^bExpenditures of industry FFRDCs for 1953–54 not separated from total federal support to industrial sector; therefore, value for federal support to industry includes support to FFRDCs for those years. Similarly for expenditures of nonprofit FFRDCs, included in federal support for nonprofit institutions in 1953–63.

^cAdjustments made to university R&D for 1998 on to eliminate double counting of funds passed through from one academic institution to another. Data for 1998 on not directly comparable with data for 1997 and earlier. For FY 1998, \$479 million in passthrough funds reported. For FY 2006, \$1,630 million in passthrough funds estimated.

^dIncludes all R&D expenditures of FFRDCs administered by academic institutions.

^eBeginning in 2001, data for nonprofit FFRDCs reported by FFRDCs. In prior years, data collected from federal agencies supporting them.

^fIndustry sources of industry R&D expenditures include all nonfederal sources of industry R&D expenditures.

NOTES: All data for calendar years. For some performers, these levels are approximations based on fiscal year data. For federal government expenditures starting in 1977, calendar-year approximation is 75% of amount reported in same fiscal year plus 25% of amount reported in subsequent fiscal year. Academic expenditures in all years and federal government expenditures before 1977 each 50% because those fiscal years (for most academic institutions and federal government before 1977) began on 1 July instead of 1 October. Technical notes explaining methodological issues of measurement available from National Science Foundation (NSF), Division of Science Resources Statistics (SRS) on request. Data based on annual reports by performers except for nonprofit sector. Preliminary data for 2005 and 2006. For trend comparisons, use only historical data reported here. Table incorporates latest revisions to prior-year data. Do not use data published earlier.

SOURCES: NSF/SRS, Research and Development in Industry 2005 (forthcoming); Academic Research and Development Expenditures: Fiscal Year 2005 (2007); Federal Funds for Research and Development: Fiscal Years 2004, 2005, and 2006 (2007); and Survey of Research and Development Funding and Performance by Nonprofit Organizations: FY 1996–97 (2001).

Appendix table 4-6

U.S. inflation-adjusted R&D expenditures, by funding and performing sectors: 1953–2006

(Millions of constant 2000 dollars)

Year	Funding sector:																		
	Performing sector:	Total	Federal								Industry				U&C	Nonprofit		Nonfederal ^a	
	Total	Total	Federal	Industry ^b	Industry FFRDCs ^b	U&C ^c	U&C FFRDCs ^d	Nonprofit ^e	Nonprofit FFRDCs ^{b,e}	Total	Industry ^f	U&C ^c	Nonprofit	U&C ^c	Total	Nonprofit	U&C ^c	U&C ^c	
1953.....	28,282	15,251	5,563	7,838	NA	817	718	315	NA	12,313	12,058	112	143	200	301	153	148	217	
1954.....	30,495	16,821	5,226	9,502	NA	893	871	328	NA	12,892	12,597	128	168	214	326	168	157	242	
1955.....	33,508	19,222	5,189	10,973	656	1,019	998	341	45	13,454	13,123	144	187	224	341	171	171	267	
1956.....	43,827	25,667	5,829	15,443	1,717	1,140	1,119	364	57	17,250	16,897	162	191	237	382	196	186	291	
1957.....	49,447	31,104	6,474	19,603	2,031	1,205	1,330	392	70	17,314	16,948	182	185	255	454	255	200	319	
1958.....	53,248	34,023	7,350	21,641	1,576	1,366	1,539	463	88	18,084	17,709	190	185	271	520	302	217	351	
1959.....	60,187	39,357	8,101	25,141	2,014	1,713	1,682	600	106	19,587	19,194	190	202	294	561	323	239	388	
1960.....	65,164	42,371	8,558	26,634	2,267	2,151	1,830	703	228	21,463	21,045	190	228	318	585	323	261	428	
1961.....	68,450	44,575	9,340	26,719	2,608	2,615	2,068	794	430	22,357	21,939	188	230	350	696	404	291	472	
1962.....	72,499	47,007	10,143	27,857	1,975	3,183	2,318	927	603	23,756	23,318	188	250	389	828	505	322	519	
1963.....	80,377	53,429	11,738	31,455	1,899	3,847	2,659	1,074	757	25,030	24,592	186	252	440	904	546	358	573	
1964.....	86,320	57,678	13,399	32,792	2,092	4,496	2,842	1,130	926	26,604	26,172	183	249	513	904	506	398	621	
1965.....	89,872	58,549	14,006	32,692	1,655	5,179	2,793	1,269	954	29,060	28,601	184	275	604	996	550	446	663	
1966.....	95,232	61,116	14,272	34,418	1,532	5,760	2,811	1,417	906	31,631	31,135	194	302	710	1,085	595	490	690	
1967.....	97,709	60,949	14,416	33,256	1,754	6,238	2,913	1,431	942	34,091	33,565	216	310	835	1,132	607	525	703	
1968.....	99,009	60,066	14,037	32,694	1,666	6,366	2,898	1,461	943	36,156	35,600	231	325	885	1,162	606	556	741	
1969.....	99,415	58,237	14,495	30,545	1,774	6,209	2,796	1,482	937	38,283	37,696	231	356	891	1,208	616	593	795	
1970.....	95,419	54,424	15,087	26,536	1,718	6,122	2,639	1,487	835	37,950	37,367	238	345	939	1,246	625	621	861	
1971.....	93,225	52,612	15,250	24,818	1,698	6,086	2,541	1,475	744	37,440	36,852	249	339	1,001	1,266	636	630	906	
1972.....	95,275	53,170	15,500	24,760	1,817	6,265	2,602	1,563	663	38,836	38,239	262	335	1,033	1,301	656	645	935	
1973.....	97,184	52,081	15,186	23,863	1,711	6,306	2,641	1,777	597	41,756	41,145	281	330	1,077	1,323	663	661	947	
1974.....	96,065	49,782	14,780	21,805	1,866	6,220	2,667	1,839	605	42,866	42,237	299	329	1,130	1,366	677	688	922	
1975.....	93,870	48,771	14,635	20,731	1,913	6,316	2,808	1,776	592	41,642	41,004	311	327	1,135	1,406	690	716	916	
1976.....	98,104	50,481	14,653	21,571	2,214	6,515	3,148	1,769	610	44,039	43,377	326	336	1,194	1,472	727	745	918	
1977.....	101,372	51,627	14,529	22,275	2,250	6,766	3,432	1,732	643	45,944	45,238	361	344	1,330	1,550	763	787	922	
1978.....	106,474	53,355	15,216	22,089	2,365	7,274	3,872	1,814	727	49,078	48,332	397	350	1,484	1,589	794	794	968	
1979.....	111,769	54,947	15,079	22,915	2,349	7,766	4,062	1,988	787	52,670	51,885	433	351	1,584	1,596	818	778	972	
1980.....	116,990	55,487	14,490	23,596	2,363	8,021	4,267	1,882	867	57,231	56,393	488	351	1,701	1,611	836	775	959	
1981.....	122,282	57,069	14,555	25,367	2,343	7,898	4,202	1,818	886	60,806	59,927	531	349	1,789	1,635	852	783	983	
1982.....	128,733	59,200	15,147	27,200	2,366	7,778	4,055	1,800	854	64,874	63,938	579	358	1,923	1,746	895	851	990	
1983.....	137,944	63,568	16,608	29,284	2,431	7,990	4,356	2,002	898	69,416	68,379	663	374	2,080	1,872	960	912	1,009	
1984.....	151,125	68,687	17,612	32,011	2,570	8,495	4,794	2,288	917	77,137	75,979	765	392	2,238	1,997	1,032	966	1,066	
1985.....	164,486	75,510	18,781	36,338	2,672	9,163	5,187	2,429	939	83,142	81,824	904	414	2,500	2,139	1,116	1,023	1,196	
1986.....	168,770	76,663	18,954	36,491	2,654	9,863	5,576	2,366	759	85,602	84,115	1,046	441	2,833	2,312	1,218	1,095	1,360	
1987.....	172,633	80,072	18,565	39,288	2,726	10,613	5,857	2,328	696	85,491	83,889	1,135	467	3,090	2,526	1,321	1,204	1,454	
1988.....	176,871	79,438	18,948	37,283	2,803	11,351	6,052	2,328	673	89,805	88,081	1,233	491	3,338	2,750	1,424	1,325	1,539	
1989.....	180,618	76,967	19,388	33,554	2,794	11,857	6,054	2,625	696	95,429	93,564	1,350	515	3,630	2,970	1,530	1,440	1,622	
1990.....	186,284	75,508	19,207	31,624	2,847	12,178	5,998	2,875	780	101,983	100,015	1,428	540	3,905	3,173	1,643	1,531	1,715	
1991.....	190,509	71,977	18,059	28,534	2,696	12,628	6,064	3,172	824	109,305	107,267	1,470	567	4,094	3,378	1,769	1,608	1,756	

U.S. inflation-adjusted R&D expenditures, by funding and performing sectors: 1953–2006

(Millions of constant 2000 dollars)

Year	Funding sector:	Total	Federal							Industry				U&C	Nonprofit		Nonfederal ^a		
	Performing sector:	Total	Total	Federal	Industry ^b	FFRDCs ^b	U&C ^c	U&C	Nonprofit	FFRDCs ^d	Nonprofit ^{b,e}	Total	Industry ^f	U&C ^c	Nonprofit	U&C ^c	Total	Nonprofit	U&C ^c
1992.....		191,408	70,513	18,352	25,895	2,724	13,341	6,088	3,248	865	111,395	109,265	1,527	603	4,130	3,604	1,928	1,676	1,765
1993.....		187,515	68,482	18,704	23,585	2,223	13,921	5,984	3,217	848	109,243	107,028	1,574	642	4,196	3,833	2,101	1,732	1,761
1994.....		187,463	67,332	18,120	22,448	2,440	14,394	5,865	3,225	840	109,910	107,614	1,613	683	4,363	4,060	2,294	1,766	1,797
1995.....		199,355	68,360	18,352	22,993	2,468	14,751	5,827	3,091	877	120,372	117,964	1,680	729	4,462	4,261	2,506	1,754	1,901
1996.....		210,263	67,540	17,671	22,755	2,447	15,000	5,748	3,096	822	131,500	128,941	1,780	778	4,725	4,517	2,742	1,775	1,982
1997.....		222,340	67,671	17,628	22,846	2,232	15,221	5,725	3,159	860	142,776	140,034	1,894	848	5,070	4,810	2,938	1,872	2,014
1998.....		234,737	68,803	17,997	22,894	2,154	15,721	5,763	3,401	874	153,252	150,320	2,020	912	5,351	5,288	3,297	1,991	2,043
1999.....		250,374	68,505	18,240	20,942	2,084	16,608	5,775	3,843	1,014	168,247	165,114	2,127	1,006	5,741	5,738	3,581	2,157	2,143
2000.....		267,556	66,403	17,917	17,117	2,001	17,714	5,742	4,447	1,465	186,135	182,844	2,174	1,118	6,230	6,542	4,217	2,325	2,246
2001.....		271,229	71,114	19,948	16,503	1,973	19,305	6,080	5,165	2,140	184,024	180,781	2,138	1,106	6,664	7,086	4,601	2,485	2,340
2002.....		265,475	74,569	20,635	15,742	2,172	21,477	6,817	5,501	2,226	173,449	170,335	2,073	1,040	7,046	7,958	5,311	2,647	2,453
2003.....		271,630	78,565	21,383	16,727	2,310	23,595	6,861	5,344	2,344	174,969	171,917	2,001	1,051	7,188	8,334	5,671	2,662	2,575
2004.....		274,211	81,249	21,059	18,520	2,271	24,802	6,998	5,183	2,416	174,890	171,837	2,002	1,051	7,249	8,190	5,498	2,692	2,634
2005.....		286,545	83,191	21,948	19,434	2,275	24,993	6,906	5,137	2,497	184,355	181,175	2,068	1,112	7,605	8,783	6,013	2,769	2,612
2006.....		293,254	81,160	21,025	19,434	2,090	24,592	6,650	4,928	2,441	192,417	189,142	2,113	1,163	8,009	9,034	6,202	2,832	2,634

NA = not available

FFRDC = federally funded research and development center; U&C = universities and colleges

^aBecause of limitations in survey information, data on nonfederal government funding to other performers not available and consequently included in other sectors' support for their own R&D, e.g., nonfederal government support to nonprofits is included in nonprofit support for their own R&D.

^bExpenditures of industry FFRDCs for 1953–54 not separated from total federal support to industrial sector; therefore, value for federal support to industry includes support to FFRDCs for those years. Similarly for expenditures of nonprofit FFRDCs, included in federal support for nonprofit institutions in 1953–63.

^cAdjustments made to university R&D for 1998 on to eliminate double counting of funds passed through from one academic institution to another. Data for 1998 on not directly comparable with data for 1997 and earlier. For FY 1998, \$479 million in passthrough funds reported. For FY 2006, \$1,630 million in passthrough funds estimated.

^dIncludes all R&D expenditures of FFRDCs administered by academic institutions.

^eBeginning in 2001, data for nonprofit FFRDCs reported by FFRDCs. In prior years, data collected from federal agencies supporting them.

^fIndustry sources of industry R&D expenditures include all nonfederal sources of industry R&D expenditures.

NOTES: All data for calendar years. For some performers, these levels are approximations based on fiscal year data. For federal government expenditures starting in 1977, calendar-year approximation is 75% of amount reported in same fiscal year plus 25% of amount reported in subsequent fiscal year. Academic expenditures in all years and federal government expenditures before 1977 each 50% because those fiscal years (for most academic institutions and federal government before 1977) began on 1 July instead of 1 October. Technical notes explaining methodological issues of measurement available from National Science Foundation (NSF), Division of Science Resources Statistics (SRS) on request. Data based on annual reports by performers except for nonprofit sector. Preliminary data for 2005 and 2006. For trend comparisons, use only historical data reported here. Table incorporates latest revisions to prior-year data. Do not use data published earlier.

SOURCES: NSF/SRS, Research and Development in Industry 2005 (forthcoming); Academic Research and Development Expenditures: Fiscal Year 2005 (2007); Federal Funds for Research and Development: Fiscal Years 2004, 2005, and 2006 (2007); and Survey of Research and Development Funding and Performance by Nonprofit Organizations: FY 1996–97 (2001).

Appendix table 4-7

(Page 1 of 2)

U.S. basic research expenditures, by performing and funding sectors: 1953–2006

(Millions of current dollars)

Year	Performing sector:						U&C ^b							Other nonprofit institutions				Nonprofit
	Total	Federal	Industry ^a			Industry FFRDCs	Total	Federal	U&C ^b			U&C FFRDCs	Total	Federal ^c	Industry	Nonprofit	FFRDCs	
	Funding sector: Total	Federal	Total	Federal ^c	Industry ^d	Federal ^e	Total	Federal	Nonfederal ^e	Industry	U&C	Nonprofit	Federal ^f	Total	Federal ^c	Industry	Nonprofit	Federal ^g
1953.....	460	102	151	19	132	NA	123	82	7	13	6	16	36	48	27	9	12	NA
1954.....	509	96	166	23	143	NA	148	97	10	15	8	18	44	55	31	11	13	NA
1955.....	579	98	189	27	162	NA	180	117	14	17	12	21	50	63	36	13	14	NA
1956.....	718	114	253	37	216	NA	220	143	19	20	15	24	58	74	42	15	17	NA
1957.....	814	124	271	41	230	NA	261	167	25	23	20	27	72	87	49	15	23	NA
1958.....	944	149	295	43	252	NA	312	202	31	24	24	31	85	103	59	16	28	NA
1959.....	1,087	165	320	72	248	NA	388	263	38	24	28	36	95	120	72	18	30	NA
1960.....	1,286	184	376	79	297	NA	485	341	45	25	33	41	106	136	85	21	30	NA
1961.....	1,512	230	395	81	314	NA	598	432	54	25	40	48	126	164	105	22	37	NA
1962.....	1,824	252	488	143	345	NA	737	546	64	25	48	55	148	200	130	24	46	NA
1963.....	2,115	285	522	147	375	NA	909	689	75	25	58	63	175	225	150	25	50	NA
1964.....	2,396	339	507	123	384	42	1,071	824	84	25	70	68	200	238	166	25	47	NA
1965.....	2,664	375	563	157	406	29	1,221	944	94	27	86	70	218	260	179	29	52	NA
1966.....	2,930	410	593	142	451	31	1,380	1,066	104	29	106	75	239	278	188	32	58	NA
1967.....	3,168	434	595	168	427	34	1,554	1,188	114	34	136	83	263	289	194	34	61	NA
1968.....	3,376	482	607	145	462	35	1,681	1,265	131	38	156	91	276	296	196	37	63	NA
1969.....	3,491	545	581	123	458	37	1,754	1,288	153	40	171	103	272	302	192	43	67	NA
1970.....	3,594	562	566	122	444	36	1,855	1,323	179	43	196	115	265	311	195	44	72	NA
1971.....	3,720	581	557	101	456	33	1,968	1,385	194	50	214	127	252	329	207	45	77	NA
1972.....	3,850	603	554	91	463	39	2,038	1,437	195	55	216	134	270	347	216	47	84	NA
1973.....	4,099	652	595	96	499	36	2,103	1,489	196	59	223	137	343	371	232	49	90	NA
1974.....	4,511	715	650	114	536	49	2,282	1,609	204	66	250	153	415	401	245	54	102	NA
1975.....	4,875	760	677	104	573	53	2,480	1,768	212	72	264	164	476	430	255	59	116	NA
1976.....	5,373	850	750	116	634	69	2,675	1,924	218	75	283	175	556	474	278	65	131	NA
1977.....	6,008	943	836	135	701	75	2,967	2,114	232	89	334	198	667	521	301	72	148	NA
1978.....	6,959	1,044	941	156	785	94	3,376	2,399	260	107	398	213	906	598	351	79	168	NA
1979.....	7,836	1,112	1,054	161	893	104	3,828	2,719	286	128	466	229	1,050	689	413	87	190	NA
1980.....	8,745	1,212	1,205	170	1,035	120	4,315	3,061	307	156	544	248	1,167	726	416	95	215	NA
1981.....	9,658	1,343	1,477	164	1,313	137	4,737	3,331	338	183	615	269	1,284	671	324	105	243	9
1982.....	10,651	1,522	1,776	253	1,523	128	5,091	3,475	368	215	716	317	1,366	759	369	115	275	9
1983.....	11,880	1,733	2,106	346	1,760	117	5,518	3,689	396	260	816	358	1,536	863	426	127	311	8
1984.....	13,332	1,877	2,472	340	2,132	136	6,145	4,087	436	313	915	395	1,709	984	494	139	351	9
1985.....	14,748	1,947	2,731	358	2,373	131	7,024	4,606	514	389	1,075	440	1,793	1,110	560	153	397	13
1986.....	17,154	2,026	3,930	434	3,496	117	7,943	5,122	606	466	1,262	488	1,915	1,210	594	168	449	13
1987.....	18,481	2,047	4,181	598	3,583	142	8,644	5,527	659	514	1,399	545	2,086	1,367	675	185	507	14
1988.....	19,786	2,116	4,163	656	3,507	337	9,343	5,937	705	565	1,529	607	2,272	1,531	756	203	573	24
1989.....	21,889	2,309	4,818	986	3,832	398	10,218	6,422	766	637	1,714	680	2,371	1,730	860	223	647	46
1990.....	23,028	2,319	4,629	869	3,760	499	11,125	6,888	847	705	1,929	756	2,470	1,922	947	245	730	65
1991.....	27,139	2,378	7,376	1,251	6,125	461	12,061	7,423	912	764	2,127	836	2,657	2,129	1,036	269	825	77

U.S. basic research expenditures, by performing and funding sectors: 1953–2006

(Millions of current dollars)

Year	Performing sector:		Industry ^a				U&C ^b						Other nonprofit institutions				Nonprofit FFRDCs	
	Total	Federal	Total	Federal ^c	Industry ^d	FFRDCs	Total	Federal	Nonfederal ^e	Industry	U&C	Nonprofit	FFRDCs	Total	Federal ^c	Industry	Nonprofit	Federal ^c
1992.....	27,604	2,419	6,528	712	5,816	474	12,910	8,058	941	814	2,202	893	2,867	2,340	1,114	295	931	67
1993.....	28,742	2,621	6,427	466	5,961	492	13,645	8,638	952	851	2,268	936	2,953	2,532	1,157	324	1,051	72
1994.....	29,649	2,547	6,514	436	6,078	503	14,399	9,139	991	889	2,406	974	2,934	2,678	1,137	356	1,186	75
1995.....	29,609	2,689	5,569	190	5,379	530	15,145	9,634	1,069	945	2,510	987	2,702	2,899	1,170	390	1,338	75
1996.....	32,797	2,680	7,498	650	6,848	708	16,040	10,092	1,149	1,032	2,739	1,028	2,606	3,187	1,248	428	1,510	79
1997.....	36,915	2,746	9,795	1,029	8,766	625	17,648	10,920	1,248	1,175	3,144	1,161	2,671	3,322	1,317	449	1,557	108
1998.....	35,331	3,003	5,853	1,002	4,851	568	19,320	11,895	1,330	1,315	3,483	1,296	2,660	3,715	1,461	489	1,766	213
1999.....	38,872	3,347	6,645	1,108	5,537	557	20,935	12,802	1,433	1,422	3,837	1,442	2,765	4,226	1,734	546	1,946	397
2000.....	42,763	3,765	7,040	925	6,115	547	22,860	13,912	1,549	1,499	4,296	1,603	2,874	5,061	2,099	621	2,341	616
2001.....	47,785	4,260	8,053	754	7,299	552	25,192	15,515	1,661	1,518	4,733	1,765	3,104	5,709	2,464	629	2,616	915
2002.....	51,400	4,511	7,547	888	6,659	534	27,867	17,635	1,765	1,492	5,070	1,905	3,714	6,249	2,575	602	3,072	979
2003.....	55,109	4,664	8,330	1,386	6,944	299	30,354	19,823	1,880	1,461	5,246	1,943	3,747	6,686	2,714	621	3,351	1,029
2004.....	56,670	4,734	7,835	1,072	6,763	175	32,397	21,380	1,991	1,513	5,479	2,035	3,729	6,728	2,749	639	3,340	1,071
2005.....	59,686	4,921	8,667	1,108	7,559	135	33,798	22,053	2,038	1,614	5,933	2,161	3,780	7,216	2,756	696	3,764	1,169
2006.....	61,519	4,938	9,267	1,141	8,126	128	34,752	22,267	2,109	1,692	6,415	2,268	3,746	7,515	2,768	750	3,998	1,173

NA = not available

FFRDC = federally funded research and development center; U&C = universities and colleges

^aCharacter-of-work estimates for industry R&D revised for 1998 on; therefore, data not directly comparable with data for 1997 and earlier.^bAdjustments made to university R&D for 1998 on to eliminate double counting of funds passed through from one academic institution to another. Character-of-work estimation procedure for university and college R&D also revised for 1998 on; therefore, data not directly comparable with data for 1997 and earlier.^cExpenditures of industry FFRDCs for 1953–63 not separated from total federal support to industrial sector; therefore, value for federal support to industry includes support to FFRDCs for those years. Similarly for expenditures of nonprofit FFRDCs, included in federal support for nonprofit institutions in 1953–80.^dIndustry sources of industry R&D expenditures include all nonfederal sources of industry R&D expenditures.^eBecause of limitations in survey information, data on nonfederal government funding to other performers not available and consequently included in other sectors' support for their own R&D, e.g., nonfederal government support to nonprofits is included in nonprofit support for their own R&D.^fIncludes all R&D expenditures of FFRDCs administered by academic institutions.

NOTES: All data for calendar years. For some performers, these levels are approximations based on fiscal year data. For federal government expenditures starting in 1977, calendar-year approximation is 75% of amount reported in same fiscal year plus 25% of amount reported in subsequent fiscal year. Academic expenditures in all years and federal government expenditures before 1977 each 50% because those fiscal years (for most academic institutions and federal government before 1977) began on 1 July instead of 1 October. Technical notes explaining methodological issues of measurement available from National Science Foundation (NSF), Division of Science Resources Statistics (SRS) on request. Data based on annual reports by performers except for nonprofit sector. Preliminary data for 2005 and 2006. For trend comparisons, use only historical data reported here. Table incorporates latest revisions to prior-year data. Do not use data published earlier.

SOURCES: NSF/SRS, Research and Development in Industry 2005 (forthcoming); Academic Research and Development Expenditures: Fiscal Year 2005 (2007); Federal Funds for Research and Development: Fiscal Years 2004, 2005, and 2006 (2007); and NSF/SRS, Survey of Research and Development Funding and Performance by Nonprofit Organizations: FY 1996–97 (2001).

U.S. inflation-adjusted basic research expenditures, by performing and funding sectors: 1953–2006

(Millions of constant 2000 dollars)

Year	Performing sector:	Total	Federal	Industry ^a			Industry FFRDCs	U&C ^b					U&C FFRDCs	Other nonprofit institutions				Nonprofit FFRDCs	
	Funding sector:	Total	Federal	Total	Federal ^c	Industry ^d	Federal ^e	Total	Federal	Nonfederal ^g	Industry	U&C	Nonprofit	Federal ^f	Total	Federal ^h	Industry	Nonprofit	Federal ⁱ
1953.....		2,519	556	828	104	723	NA	674	447	36	71	33	88	197	263	148	49	66	NA
1954.....		2,761	521	901	125	776	NA	801	524	52	81	46	98	239	299	168	60	71	NA
1955.....		3,089	520	1,008	144	864	NA	958	621	74	91	62	109	267	336	192	69	75	NA
1956.....		3,702	585	1,304	191	1,114	NA	1,134	735	98	101	80	121	299	379	214	77	88	NA
1957.....		4,060	619	1,352	205	1,148	NA	1,300	831	124	112	98	135	357	432	242	75	115	NA
1958.....		4,603	727	1,439	210	1,229	NA	1,522	985	152	117	117	151	415	500	285	78	137	NA
1959.....		5,238	793	1,542	347	1,195	NA	1,870	1,265	181	116	137	171	455	578	347	87	145	NA
1960.....		6,112	872	1,787	375	1,412	NA	2,303	1,618	214	116	159	195	504	646	404	100	143	NA
1961.....		7,104	1,079	1,856	381	1,476	NA	2,808	2,028	252	117	187	223	590	771	493	103	174	NA
1962.....		8,457	1,168	2,263	663	1,600	NA	3,415	2,529	295	116	222	253	684	927	603	111	213	NA
1963.....		9,704	1,305	2,395	674	1,720	NA	4,168	3,161	344	112	264	287	803	1,032	688	115	229	NA
1964.....		10,827	1,532	2,291	556	1,735	190	4,837	3,721	381	113	315	307	901	1,075	750	113	212	NA
1965.....		11,822	1,662	2,498	697	1,802	129	5,416	4,187	419	118	382	311	965	1,152	792	129	231	NA
1966.....		12,642	1,769	2,559	613	1,946	134	5,954	4,599	447	125	459	324	1,029	1,197	809	138	250	NA
1967.....		13,257	1,814	2,490	703	1,787	142	6,502	4,970	477	140	568	347	1,101	1,207	810	142	255	NA
1968.....		13,551	1,935	2,436	582	1,854	140	6,745	5,078	525	151	627	365	1,106	1,188	787	149	253	NA
1969.....		13,350	2,085	2,222	470	1,752	141	6,706	4,924	585	151	655	392	1,040	1,155	734	164	256	NA
1970.....		13,053	2,041	2,056	443	1,613	131	6,737	4,803	651	156	711	416	961	1,128	706	160	262	NA
1971.....		12,868	2,010	1,927	349	1,577	114	6,807	4,789	670	171	740	438	872	1,138	716	156	266	NA
1972.....		12,763	1,997	1,837	302	1,535	129	6,754	4,764	648	182	716	444	895	1,150	716	156	278	NA
1973.....		12,872	2,047	1,868	301	1,567	113	6,603	4,674	617	184	701	429	1,077	1,163	727	154	283	NA
1974.....		12,989	2,058	1,872	328	1,544	141	6,570	4,633	587	190	720	439	1,194	1,154	706	155	294	NA
1975.....		12,828	1,999	1,782	274	1,508	139	6,525	4,653	559	188	694	432	1,251	1,131	671	156	304	NA
1976.....		13,367	2,115	1,866	289	1,577	172	6,654	4,786	542	187	705	434	1,383	1,178	690	162	325	NA
1977.....		14,054	2,205	1,955	316	1,640	175	6,939	4,945	542	208	782	462	1,560	1,219	705	168	346	NA
1978.....		15,208	2,282	2,057	341	1,716	205	7,378	5,243	568	233	870	464	1,979	1,306	768	172	366	NA
1979.....		15,816	2,245	2,127	325	1,802	210	7,725	5,488	577	257	941	462	2,118	1,391	833	175	383	NA
1980.....		16,181	2,243	2,230	315	1,915	222	7,984	5,663	568	288	1,006	459	2,158	1,343	769	176	397	NA
1981.....		16,336	2,271	2,498	277	2,221	232	8,012	5,634	572	309	1,041	456	2,172	1,136	548	177	411	15
1982.....		16,980	2,426	2,831	403	2,428	204	8,116	5,539	587	344	1,142	505	2,178	1,210	588	184	438	14
1983.....		18,219	2,657	3,230	531	2,699	179	8,462	5,657	607	398	1,252	549	2,355	1,323	653	194	476	12
1984.....		19,705	2,774	3,654	503	3,151	201	9,082	6,040	644	462	1,352	584	2,526	1,455	730	206	519	14
1985.....		21,155	2,793	3,917	514	3,404	188	10,075	6,606	738	558	1,543	631	2,572	1,592	803	219	569	18
1986.....		24,075	2,843	5,516	609	4,907	164	11,147	7,188	850	654	1,771	684	2,688	1,698	833	236	630	18
1987.....		25,249	2,797	5,712	817	4,895	194	11,809	7,550	900	702	1,912	745	2,850	1,867	923	252	692	20
1988.....		26,140	2,796	5,500	867	4,633	445	12,343	7,843	932	746	2,021	802	3,001	2,023	999	268	756	31
1989.....		27,864	2,939	6,133	1,255	4,878	507	13,006	8,174	974	811	2,181	865	3,018	2,202	1,095	283	823	59
1990.....		28,223	2,842	5,673	1,065	4,608	612	13,635	8,442	1,038	865	2,364	927	3,027	2,356	1,161	300	895	79
1991.....		32,139	2,816	8,735	1,481	7,253	546	14,283	8,790	1,080	905	2,519	990	3,146	2,521	1,227	318	977	91

U.S. inflation-adjusted basic research expenditures, by performing and funding sectors: 1953–2006

(Millions of constant 2000 dollars)

Year	Performing sector:		Industry ^a				Industry FFRDCs	U&C ^b					U&C FFRDCs	Other nonprofit institutions				Nonprofit FFRDCs	
	Funding sector:	Total	Federal	Total	Federal ^c	Industry ^d	Federal ^e	Total	Federal	Nonfederal ^e	Industry	U&C	Nonprofit	Federal ^f	Total	Federal ^g	Industry	Nonprofit	Federal ^h
1992.....		31,955	2,800	7,557	824	6,733	549	14,944	9,328	1,090	943	2,550	1,034	3,319	2,709	1,290	341	1,078	78
1993.....		32,520	2,965	7,272	527	6,745	557	15,439	9,774	1,077	963	2,566	1,059	3,341	2,865	1,309	366	1,189	82
1994.....		32,849	2,822	7,217	483	6,734	557	15,953	10,125	1,098	985	2,666	1,079	3,251	2,967	1,259	394	1,314	83
1995.....		32,146	2,920	6,046	206	5,840	575	16,443	10,459	1,161	1,026	2,725	1,072	2,933	3,147	1,270	424	1,453	82
1996.....		34,946	2,855	7,989	693	7,297	754	17,091	10,752	1,224	1,100	2,919	1,096	2,776	3,396	1,330	457	1,609	84
1997.....		38,690	2,878	10,266	1,078	9,187	655	18,497	11,445	1,308	1,232	3,295	1,217	2,800	3,482	1,380	471	1,631	113
1998.....		36,624	3,112	6,067	1,039	5,028	589	20,026	12,330	1,379	1,363	3,611	1,344	2,757	3,851	1,514	507	1,831	221
1999.....		39,718	3,420	6,789	1,132	5,658	570	21,391	13,081	1,464	1,453	3,921	1,473	2,825	4,318	1,772	558	1,988	405
2000.....		42,763	3,765	7,040	925	6,115	547	22,860	13,912	1,549	1,499	4,296	1,603	2,874	5,061	2,099	621	2,341	616
2001.....		46,666	4,161	7,864	736	7,128	539	24,601	15,151	1,623	1,482	4,622	1,724	3,031	5,575	2,406	614	2,555	894
2002.....		49,335	4,329	7,244	852	6,391	513	26,747	16,926	1,694	1,432	4,866	1,828	3,564	5,998	2,471	578	2,949	940
2003.....		51,793	4,384	7,829	1,303	6,526	281	28,527	18,630	1,767	1,373	4,931	1,826	3,521	6,284	2,551	584	3,149	967
2004.....		51,788	4,327	7,160	980	6,180	160	29,606	19,539	1,819	1,383	5,007	1,859	3,408	6,148	2,512	584	3,053	979
2005.....		52,943	4,365	7,688	983	6,705	119	29,980	19,562	1,808	1,431	5,262	1,916	3,353	6,401	2,445	617	3,339	1,037
2006.....		52,994	4,254	7,983	983	7,000	110	29,936	19,182	1,817	1,458	5,526	1,954	3,227	6,474	2,384	646	3,444	1,010

NA = not available

FFRDC = federally funded research and development center; U&C = universities and colleges

^aCharacter-of-work estimates for industry R&D revised for 1998 on; therefore, data not directly comparable with data for 1997 and earlier.^bAdjustments made to university R&D for 1998 on to eliminate double counting of funds passed through from one academic institution to another. Character-of-work estimation procedure for university and college R&D also revised for 1998 on; therefore, data not directly comparable with data for 1997 and earlier.^cExpenditures of industry FFRDCs for 1953–63 not separated from total federal support to industrial sector; therefore, value for federal support to industry includes support to FFRDCs for those years. Similarly for expenditures of nonprofit FFRDCs, included in federal support for nonprofit institutions in 1953–80.^dIndustry sources of industry R&D expenditures include all nonfederal sources of industry R&D expenditures.^eBecause of limitations in survey information, data on nonfederal government funding to other performers not available and consequently included in other sectors' support for their own R&D, e.g., nonfederal government support to nonprofits is included in nonprofit support for their own R&D.^fIncludes all R&D expenditures of FFRDCs administered by academic institutions.

NOTES: All data for calendar years. For some performers, these levels are approximations based on fiscal year data. For federal government expenditures starting in 1977, calendar-year approximation is 75% of amount reported in same fiscal year plus 25% of amount reported in subsequent fiscal year. Academic expenditures in all years and federal government expenditures before 1977 each 50% because those fiscal years (for most academic institutions and federal government before 1977) began on 1 July instead of 1 October. Technical notes explaining methodological issues of measurement available from National Science Foundation (NSF), Division of Science Resources Statistics (SRS) on request. Data based on annual reports by performers except for nonprofit sector. Preliminary data for 2005 and 2006. For trend comparisons, use only historical data reported here. Table incorporates latest revisions to prior-year data. Do not use data published earlier.

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U.S. basic research expenditures, by funding and performing sectors: 1953–2006

(Millions of current dollars)

Year	Funding sector:	Federal									Industry				U&C	Nonprofit		Nonfederal ^a	
	Performing sector:	Total	Total	Federal	Industry ^{b,c}	FFRDCs ^b	U&C ^d	U&C FFRDCs ^e	Nonprofit ^b	Nonprofit FFRDCs ^b	Total	Industry ^{c,f}	U&C ^d	Nonprofit	U&C ^d	Total	Nonprofit	U&C ^d	U&C ^d
1953.....		460	265	102	19	NA	82	36	27	NA	154	132	13	9	6	28	12	16	7
1954.....		509	291	96	23	NA	97	44	31	NA	169	143	15	11	8	31	13	18	10
1955.....		579	327	98	27	NA	117	50	36	NA	192	162	17	13	12	35	14	21	14
1956.....		718	393	114	37	NA	143	58	42	NA	251	216	20	15	15	41	17	24	19
1957.....		814	452	124	41	NA	167	72	49	NA	268	230	23	15	20	50	23	27	25
1958.....		944	538	149	43	NA	202	85	59	NA	292	252	24	16	24	59	28	31	31
1959.....		1,087	666	165	72	NA	263	95	72	NA	290	248	24	18	28	66	30	36	38
1960.....		1,286	794	184	79	NA	341	106	85	NA	343	297	25	21	33	71	30	41	45
1961.....		1,512	973	230	81	NA	432	126	105	NA	361	314	25	22	40	85	37	48	54
1962.....		1,824	1,218	252	143	NA	546	148	130	NA	394	345	25	24	48	101	46	55	64
1963.....		2,115	1,446	285	147	NA	689	175	150	NA	425	375	25	25	58	113	50	63	75
1964.....		2,396	1,693	339	123	42	824	200	166	NA	434	384	25	25	70	115	47	68	84
1965.....		2,664	1,900	375	157	29	944	218	179	NA	462	406	27	29	86	122	52	70	94
1966.....		2,930	2,075	410	142	31	1,066	239	188	NA	512	451	29	32	106	133	58	75	104
1967.....		3,168	2,280	434	168	34	1,188	263	194	NA	495	427	34	34	136	144	61	83	114
1968.....		3,376	2,399	482	145	35	1,265	276	196	NA	537	462	38	37	156	154	63	91	131
1969.....		3,491	2,457	545	123	37	1,288	272	192	NA	541	458	40	43	171	170	67	103	153
1970.....		3,594	2,501	562	122	36	1,323	265	195	NA	531	444	43	44	196	187	72	115	179
1971.....		3,720	2,559	581	101	33	1,385	252	207	NA	551	456	50	45	214	204	77	127	194
1972.....		3,850	2,656	603	91	39	1,437	270	216	NA	565	463	55	47	216	218	84	134	195
1973.....		4,099	2,847	652	96	36	1,489	343	232	NA	607	499	59	49	223	227	90	137	196
1974.....		4,511	3,146	715	114	49	1,609	415	245	NA	656	536	66	54	250	254	102	153	204
1975.....		4,875	3,415	760	104	53	1,768	476	255	NA	704	573	72	59	264	280	116	164	212
1976.....		5,373	3,793	850	116	69	1,924	556	278	NA	774	634	75	65	283	305	131	175	218
1977.....		6,008	4,235	943	135	75	2,114	667	301	NA	862	701	89	72	334	346	148	198	232
1978.....		6,959	4,950	1,044	156	94	2,399	906	351	NA	970	785	107	79	398	380	168	213	260
1979.....		7,836	5,558	1,112	161	104	2,719	1,050	413	NA	1,107	893	128	87	466	419	190	229	286
1980.....		8,745	6,145	1,212	170	120	3,061	1,167	416	NA	1,286	1,035	156	95	544	463	215	248	307
1981.....		9,658	6,591	1,343	164	137	3,331	1,284	324	9	1,600	1,313	183	105	615	512	243	269	338
1982.....		10,651	7,121	1,522	253	128	3,475	1,366	369	9	1,854	1,523	215	115	716	591	275	317	368
1983.....		11,880	7,853	1,733	346	117	3,689	1,536	426	8	2,146	1,760	260	127	816	668	311	358	396
1984.....		13,332	8,651	1,877	340	136	4,087	1,709	494	9	2,584	2,132	313	139	915	746	351	395	436
1985.....		14,748	9,407	1,947	358	131	4,606	1,793	560	13	2,915	2,373	389	153	1,075	837	397	440	514
1986.....		17,154	10,220	2,026	434	117	5,122	1,915	594	13	4,130	3,496	466	168	1,262	936	449	488	606
1987.....		18,481	11,090	2,047	598	142	5,527	2,086	675	14	4,282	3,583	514	185	1,399	1,052	507	545	659
1988.....		19,786	12,097	2,116	656	337	5,937	2,272	756	24	4,274	3,507	565	203	1,529	1,180	573	607	705
1989.....		21,889	13,392	2,309	986	398	6,422	2,371	860	46	4,692	3,832	637	223	1,714	1,326	647	680	766
1990.....		23,028	14,056	2,319	869	499	6,888	2,470	947	65	4,710	3,760	705	245	1,929	1,486	730	756	847
1991.....		27,139	15,283	2,378	1,251	461	7,423	2,657	1,036	77	7,157	6,125	764	269	2,127	1,660	825	836	912

U.S. basic research expenditures, by funding and performing sectors: 1953–2006

(Millions of current dollars)

Year	Funding sector:																	
	Performing sector:	Total	Federal							Industry				U&C	Nonprofit		Nonfederal ^a	
	Total	Total	Federal	Industry ^{b,c}	FFRDCs ^b	U&C ^d	U&C	Nonprofit ^e	FFRDCs ^b	Total	Industry ^{c,f}	U&C ^d	Nonprofit	U&C ^d	Total	Nonprofit	U&C ^d	U&C ^d
1992.....	27,604	15,710	2,419	712	474	8,058	2,867	1,114	67	6,925	5,816	814	295	2,202	1,824	931	893	941
1993.....	28,742	16,399	2,621	466	492	8,638	2,953	1,157	72	7,136	5,961	851	324	2,268	1,987	1,051	936	952
1994.....	29,649	16,770	2,547	436	503	9,139	2,934	1,137	75	7,323	6,078	889	356	2,406	2,160	1,186	974	991
1995.....	29,609	16,990	2,689	190	530	9,634	2,702	1,170	75	6,714	5,379	945	390	2,510	2,326	1,338	987	1,069
1996.....	32,797	18,062	2,680	650	708	10,092	2,606	1,248	79	8,308	6,848	1,032	428	2,739	2,539	1,510	1,028	1,149
1997.....	36,915	19,416	2,746	1,029	625	10,920	2,671	1,317	108	10,390	8,766	1,175	449	3,144	2,718	1,557	1,161	1,248
1998.....	35,331	20,801	3,003	1,002	568	11,895	2,660	1,461	213	6,655	4,851	1,315	489	3,483	3,062	1,766	1,296	1,330
1999.....	38,872	22,709	3,347	1,108	557	12,802	2,765	1,734	397	7,505	5,537	1,422	546	3,837	3,388	1,946	1,442	1,433
2000.....	42,763	24,738	3,765	925	547	13,912	2,874	2,099	616	8,235	6,115	1,499	621	4,296	3,945	2,341	1,603	1,549
2001.....	47,785	27,565	4,260	754	552	15,515	3,104	2,464	915	9,446	7,299	1,518	629	4,733	4,381	2,616	1,765	1,661
2002.....	51,400	30,835	4,511	888	534	17,635	3,714	2,575	979	8,753	6,659	1,492	602	5,070	4,977	3,072	1,905	1,765
2003.....	55,109	33,663	4,664	1,386	299	19,823	3,747	2,714	1,029	9,026	6,944	1,461	621	5,246	5,294	3,351	1,943	1,880
2004.....	56,670	34,911	4,734	1,072	175	21,380	3,729	2,749	1,071	8,915	6,763	1,513	639	5,479	5,375	3,340	2,035	1,991
2005.....	59,686	35,922	4,921	1,108	135	22,053	3,780	2,756	1,169	9,868	7,559	1,614	696	5,933	5,925	3,764	2,161	2,038
2006.....	61,519	36,161	4,938	1,141	128	22,267	3,746	2,768	1,173	10,568	8,126	1,692	750	6,415	6,266	3,998	2,268	2,109

NA = not available

FFRDC = federally funded research and development center; U&C = universities and colleges

^aBecause of limitations in survey information, data on nonfederal government funding to other performers not available and consequently included in other sectors' support for their own R&D, e.g., nonfederal government support to nonprofits is included in nonprofit support for their own R&D.

^bExpenditures of industry FFRDCs for 1953–63 not separated from total federal support to industrial sector; therefore, value for federal support to industry includes support to FFRDCs for those years. Similarly for expenditures of nonprofit FFRDCs, included in federal support for nonprofit institutions in 1953–80.

^cCharacter-of-work estimates for industry R&D revised for 1998 on; therefore, data not directly comparable with data for 1997 and earlier.

^dAdjustments made to university R&D for 1998 on to eliminate double counting of funds passed through from one academic institution to another. Character-of-work estimation procedure for university and college R&D also revised for 1998 on; therefore, data not directly comparable with data for 1997 and earlier.

^eIncludes all R&D expenditures of FFRDCs administered by academic institutions.

^fIndustry sources of industry R&D expenditures include all nonfederal sources of industry R&D expenditures.

NOTES: All data for calendar years. For some performers, these levels are approximations based on fiscal year data. For federal government expenditures starting in 1977, calendar-year approximation is 75% of amount reported in same fiscal year plus 25% of amount reported in subsequent fiscal year. Academic expenditures in all years and federal government expenditures before 1977 each 50% because those fiscal years (for most academic institutions and federal government before 1977) began on 1 July instead of 1 October. Technical notes explaining methodological issues of measurement available from National Science Foundation (NSF), Division of Science Resources Statistics (SRS) on request. Data based on annual reports by performers except for nonprofit sector. Preliminary data for 2005 and 2006. For trend comparisons, use only historical data reported here. Table incorporates latest revisions to prior-year data. Do not use data published earlier.

SOURCES: NSF/SRS, Research and Development in Industry 2005 (forthcoming); Academic Research and Development Expenditures: Fiscal Year 2005 (2007); Federal Funds for Research and Development: Fiscal Years 2004, 2005, and 2006 (2007); and Survey of Research and Development Funding and Performance by Nonprofit Organizations: FY 1996–97 (2001).

U.S. inflation-adjusted basic research expenditures, by funding and performing sectors: 1953–2006

(Millions of constant 2000 dollars)

Year	Funding sector:																		
	Performing sector:	Total	Federal								Industry				U&C	Nonprofit		Nonfederal ^a	
	Total	Total	Federal	Industry ^{b,c}	Industry FFRDCs ^b	U&C ^d	U&C FFRDCs ^e	Nonprofit ^b	Nonprofit FFRDCs ^b	Total	Industry ^{c,f}	U&C ^d	Nonprofit	U&C ^d	Total	Nonprofit	U&C ^d	U&C ^d	
1953.....	2,519	1,452	556	104	NA	447	197	148	NA	844	723	71	49	33	153	66	88	36	
1954.....	2,761	1,577	521	125	NA	524	239	168	NA	918	776	81	60	46	168	71	98	52	
1955.....	3,089	1,744	520	144	NA	621	267	192	NA	1,024	864	91	69	62	184	75	109	74	
1956.....	3,702	2,024	585	191	NA	735	299	214	NA	1,292	1,114	101	77	80	209	88	121	98	
1957.....	4,060	2,253	619	205	NA	831	357	242	NA	1,335	1,148	112	75	98	250	115	135	124	
1958.....	4,603	2,622	727	210	NA	985	415	285	NA	1,425	1,229	117	78	117	288	137	151	152	
1959.....	5,238	3,207	793	347	NA	1,265	455	347	NA	1,398	1,195	116	87	137	316	145	171	181	
1960.....	6,112	3,774	872	375	NA	1,618	504	404	NA	1,628	1,412	116	100	159	337	143	195	214	
1961.....	7,104	4,571	1,079	381	NA	2,028	590	493	NA	1,697	1,476	117	103	187	397	174	223	252	
1962.....	8,457	5,647	1,168	663	NA	2,529	684	603	NA	1,827	1,600	116	111	222	466	213	253	295	
1963.....	9,704	6,632	1,305	674	NA	3,161	803	688	NA	1,948	1,720	112	115	264	516	229	287	344	
1964.....	10,827	7,650	1,532	556	190	3,721	901	750	NA	1,961	1,735	113	113	315	520	212	307	381	
1965.....	11,822	8,431	1,662	697	129	4,187	965	792	NA	2,048	1,802	118	129	382	541	231	311	419	
1966.....	12,642	8,953	1,769	613	134	4,599	1,029	809	NA	2,209	1,946	125	138	459	574	250	324	447	
1967.....	13,257	9,540	1,814	703	142	4,970	1,101	810	NA	2,070	1,787	140	142	568	603	255	347	477	
1968.....	13,551	9,627	1,935	582	140	5,078	1,106	787	NA	2,153	1,854	151	149	627	618	253	365	525	
1969.....	13,350	9,395	2,085	470	141	4,924	1,040	734	NA	2,067	1,752	151	164	655	648	256	392	585	
1970.....	13,053	9,085	2,041	443	131	4,803	961	706	NA	1,929	1,613	156	160	711	677	262	416	651	
1971.....	12,868	8,850	2,010	349	114	4,789	872	716	NA	1,904	1,577	171	156	740	704	266	438	670	
1972.....	12,763	8,803	1,997	302	129	4,764	895	716	NA	1,873	1,535	182	156	716	723	278	444	648	
1973.....	12,872	8,939	2,047	301	113	4,674	1,077	727	NA	1,904	1,567	184	154	701	711	283	429	617	
1974.....	12,989	9,060	2,058	328	141	4,633	1,194	706	NA	1,889	1,544	190	155	720	733	294	439	587	
1975.....	12,828	8,987	1,999	274	139	4,653	1,251	671	NA	1,852	1,508	188	156	694	736	304	432	559	
1976.....	13,367	9,435	2,115	289	172	4,786	1,383	690	NA	1,926	1,577	187	162	705	760	325	434	542	
1977.....	14,054	9,906	2,205	316	175	4,945	1,560	705	NA	2,016	1,640	208	168	782	808	346	462	542	
1978.....	15,208	10,819	2,282	341	205	5,243	1,979	768	NA	2,121	1,716	233	172	870	831	366	464	568	
1979.....	15,816	11,218	2,245	325	210	5,488	2,118	833	NA	2,235	1,802	257	175	941	845	383	462	577	
1980.....	16,181	11,371	2,243	315	222	5,663	2,158	769	NA	2,380	1,915	288	176	1,006	856	397	459	568	
1981.....	16,336	11,149	2,271	277	232	5,634	2,172	548	15	2,707	2,221	309	177	1,041	867	411	456	572	
1982.....	16,980	11,353	2,426	403	204	5,539	2,178	588	14	2,955	2,428	344	184	1,142	943	438	505	587	
1983.....	18,219	12,044	2,657	531	179	5,657	2,355	653	12	3,292	2,699	398	194	1,252	1,025	476	549	607	
1984.....	19,705	12,787	2,774	503	201	6,040	2,526	730	14	3,819	3,151	462	206	1,352	1,103	519	584	644	
1985.....	21,155	13,494	2,793	514	188	6,606	2,572	803	18	4,181	3,404	558	219	1,543	1,200	569	631	738	
1986.....	24,075	14,344	2,843	609	164	7,188	2,688	833	18	5,796	4,907	654	236	1,771	1,314	630	684	850	
1987.....	25,249	15,151	2,797	817	194	7,550	2,850	923	20	5,849	4,895	702	252	1,912	1,437	692	745	900	
1988.....	26,140	15,982	2,796	867	445	7,843	3,001	999	31	5,647	4,633	746	268	2,021	1,558	756	802	932	
1989.....	27,864	17,047	2,939	1,255	507	8,174	3,018	1,095	59	5,973	4,878	811	283	2,181	1,688	823	865	974	
1990.....	28,223	17,227	2,842	1,065	612	8,442	3,027	1,161	79	5,773	4,608	865	300	2,364	1,822	895	927	1,038	
1991.....	32,139	18,098	2,816	1,481	546	8,790	3,146	1,227	91	8,476	7,253	905	318	2,519	1,966	977	990	1,080	

U.S. inflation-adjusted basic research expenditures, by funding and performing sectors: 1953–2006

(Millions of constant 2000 dollars)

Year	Funding sector:																		
	Performing sector:	Total	Federal							Industry				U&C	Nonprofit		Nonfederal ^a		
	Total	Total	Federal	Industry ^{b,c}	FFRDCs ^b	U&C ^d	U&C FFRDCs ^e	Nonprofit ^b	FFRDCs ^b	Total	Industry ^{c,f}	U&C ^d	Nonprofit	U&C ^d	Total	Nonprofit	U&C ^d	U&C ^d	
1992.....	31,955	18,187	2,800	824	549	9,328	3,319	1,290	78	8,017	6,733	943	341	2,550	2,112	1,078	1,034	1,090	
1993.....	32,520	18,555	2,965	527	557	9,774	3,341	1,309	82	8,074	6,745	963	366	2,566	2,248	1,189	1,059	1,077	
1994.....	32,849	18,580	2,822	483	557	10,125	3,251	1,259	83	8,113	6,734	985	394	2,666	2,393	1,314	1,079	1,098	
1995.....	32,146	18,446	2,920	206	575	10,459	2,933	1,270	82	7,290	5,840	1,026	424	2,725	2,525	1,453	1,072	1,161	
1996.....	34,946	19,245	2,855	693	754	10,752	2,776	1,330	84	8,853	7,297	1,100	457	2,919	2,705	1,609	1,096	1,224	
1997.....	38,690	20,349	2,878	1,078	655	11,445	2,800	1,380	113	10,890	9,187	1,232	471	3,295	2,849	1,631	1,217	1,308	
1998.....	36,624	21,562	3,112	1,039	589	12,330	2,757	1,514	221	6,898	5,028	1,363	507	3,611	3,174	1,831	1,344	1,379	
1999.....	39,718	23,204	3,420	1,132	570	13,081	2,825	1,772	405	7,668	5,658	1,453	558	3,921	3,462	1,988	1,473	1,464	
2000.....	42,763	24,738	3,765	925	547	13,912	2,874	2,099	616	8,235	6,115	1,499	621	4,296	3,945	2,341	1,603	1,549	
2001.....	46,666	26,919	4,161	736	539	15,151	3,031	2,406	894	9,224	7,128	1,482	614	4,622	4,278	2,555	1,724	1,623	
2002.....	49,335	29,596	4,329	852	513	16,926	3,564	2,471	940	8,401	6,391	1,432	578	4,866	4,777	2,949	1,828	1,694	
2003.....	51,793	31,637	4,384	1,303	281	18,630	3,521	2,551	967	8,482	6,526	1,373	584	4,931	4,975	3,149	1,826	1,767	
2004.....	51,788	31,903	4,327	980	160	19,539	3,408	2,512	979	8,147	6,180	1,383	584	5,007	4,912	3,053	1,859	1,819	
2005.....	52,943	31,864	4,365	983	119	19,562	3,353	2,445	1,037	8,754	6,705	1,431	617	5,262	5,255	3,339	1,916	1,808	
2006.....	52,994	31,150	4,254	983	110	19,182	3,227	2,384	1,010	9,103	7,000	1,458	646	5,526	5,398	3,444	1,954	1,817	

NA = not available

FFRDC = federally funded research and development center; U&C = universities and colleges

^aBecause of limitations in survey information, data on nonfederal government funding to other performers not available and consequently included in other sectors' support for their own R&D. For example, nonfederal government support to nonprofits is included in nonprofits' support for their own R&D.

^bExpenditures of industry FFRDCs for 1953–63 not separated from total federal support to the industrial sector; therefore, value for federal support to industry includes support to FFRDCs for those years. Similarly for expenditures of nonprofit FFRDCs, included in federal support for nonprofit institutions in 1953–80.

^cCharacter-of-work estimates for industry R&D revised for 1998 on; therefore, data not directly comparable with data for 1997 and earlier.

^dAdjustments made to university R&D for 1998 on to eliminate double counting of funds passed through from one academic institution to another. Character-of-work estimation procedure for university and college R&D also revised for 1998 on; therefore, data not directly comparable with data for 1997 and earlier.

^eIncludes all R&D expenditures of FFRDCs administered by academic institutions.

^fIndustry sources of industry R&D expenditures include all nonfederal sources of industry R&D expenditures.

NOTES: All data for calendar years. For some performers, these levels are approximations based on fiscal year data. For federal government expenditures starting in 1977, calendar-year approximation is 75% of amount reported in same fiscal year plus 25% of amount reported in subsequent fiscal year. Academic expenditures in all years and federal government expenditures before 1977 each 50% because those fiscal years (for most academic institutions and federal government before 1977) began on 1 July instead of 1 October. Technical notes explaining methodological issues of measurement available from National Science Foundation (NSF), Division of Science Resources Statistics (SRS) on request. Data based on annual reports by performers except for nonprofit sector. Preliminary data for 2005 and 2006. For trend comparisons, use only historical data reported here. Table incorporates latest revisions to prior-year data. Do not use data published earlier.

SOURCES: NSF/SRS, Research and Development in Industry 2005 (2007); Academic Research and Development Expenditures: Fiscal Year 2005 (2007); Federal Funds for Research and Development: Fiscal Years 2004, 2005, and 2006 (2007); and Survey of Research and Development Funding and Performance by Nonprofit Organizations: FY 1996–97 (2001).

U.S. applied research expenditures, by performing and funding sectors: 1953–2006

(Millions of current dollars)

Year	Performing sector:		Industry ^a				Industry FFRDCs	U&C ^b					U&C FFRDCs	Other nonprofit institutions				Nonprofit FFRDCs	
	Funding sector:	Total	Federal	Total	Federal ^c	Industry ^d	Federal ^e	Total	Federal	Nonfederal ^a	Industry	U&C	Nonprofit	Federal ^f	Total	Federal ^g	Industry	Nonprofit	Federal ^h
1953.....		1,289	347	726	288	438	NA	134	59	30	7	28	10	48	35	14	11	10	NA
1954.....		1,378	330	814	322	492	NA	137	60	32	8	28	10	58	40	16	13	11	NA
1955.....		1,514	333	928	368	560	NA	142	63	32	9	27	11	68	43	18	14	11	NA
1956.....		1,928	387	1,268	474	794	NA	146	65	33	10	27	11	79	49	21	14	14	NA
1957.....		2,414	446	1,670	678	992	NA	147	63	34	12	27	11	94	58	24	14	20	NA
1958.....		2,758	516	1,911	774	1,137	NA	152	66	35	12	27	12	111	69	30	14	25	NA
1959.....		2,940	577	1,991	813	1,178	NA	167	78	37	13	28	12	121	85	43	15	27	NA
1960.....		3,065	615	2,029	833	1,196	NA	186	93	39	13	29	12	129	108	63	17	28	NA
1961.....		3,123	668	1,977	812	1,165	NA	199	104	40	13	30	13	145	135	83	17	35	NA
1962.....		3,698	709	2,449	1,011	1,438	NA	216	119	41	14	30	13	163	162	98	19	45	NA
1963.....		3,865	809	2,457	1,007	1,450	NA	230	128	42	14	32	14	186	183	115	19	49	NA
1964.....		4,201	947	2,538	978	1,560	62	256	142	45	14	37	18	203	196	130	19	47	NA
1965.....		4,374	994	2,612	992	1,620	46	304	176	46	13	42	27	206	213	140	21	52	NA
1966.....		4,653	1,012	2,790	986	1,804	53	351	208	47	14	48	34	213	234	153	24	57	NA
1967.....		4,848	1,069	2,832	983	1,849	83	389	238	46	16	54	36	225	251	166	25	60	NA
1968.....		5,137	1,112	3,037	956	2,081	87	405	250	46	16	55	39	221	276	186	28	62	NA
1969.....		5,454	1,229	3,192	920	2,272	95	417	257	48	16	54	43	213	308	210	32	66	NA
1970.....		5,752	1,334	3,330	952	2,378	97	451	280	51	18	56	47	213	328	225	33	70	NA
1971.....		5,833	1,355	3,348	907	2,441	67	499	306	61	19	67	47	216	349	241	34	74	NA
1972.....		6,147	1,434	3,407	845	2,562	107	619	391	74	21	82	52	224	357	243	35	79	NA
1973.....		6,655	1,527	3,715	883	2,832	110	725	450	88	26	100	62	203	376	257	36	83	NA
1974.....		7,344	1,652	4,168	905	3,263	120	794	477	96	32	118	72	191	420	290	39	91	NA
1975.....		8,091	1,912	4,431	991	3,440	139	934	550	113	39	141	92	219	456	315	42	100	NA
1976.....		8,976	2,068	4,945	1,033	3,912	167	1,042	596	127	45	166	109	263	492	338	45	109	NA
1977.....		9,662	2,081	5,424	1,113	4,311	212	1,126	626	134	51	194	121	297	523	355	48	120	NA
1978.....		10,704	2,242	6,065	1,195	4,870	235	1,247	676	151	61	232	128	324	592	409	52	132	NA
1979.....		12,097	2,415	6,975	1,305	5,670	250	1,418	793	161	71	263	129	360	680	480	55	144	NA
1980.....		13,714	2,546	8,175	1,625	6,550	275	1,622	912	174	88	308	140	421	675	458	60	158	NA
1981.....		16,329	2,731	10,401	2,042	8,359	298	1,781	953	199	108	363	159	422	628	391	64	173	68
1982.....		18,218	2,802	11,956	2,593	9,363	367	1,915	1,007	207	121	402	178	433	655	398	69	189	91
1983.....		20,298	2,991	13,513	3,227	10,286	414	2,116	1,122	215	141	443	194	473	713	433	74	207	78
1984.....		22,451	2,961	15,218	3,677	11,541	547	2,332	1,226	234	168	491	212	548	764	459	79	226	80
1985.....		25,401	3,135	17,625	4,717	12,908	630	2,527	1,296	262	198	547	224	580	822	490	85	247	82
1986.....		27,240	3,204	19,131	4,049	15,082	629	2,780	1,393	298	229	620	240	554	867	506	91	270	75
1987.....		27,951	3,366	19,190	4,037	15,153	623	3,219	1,643	333	260	707	276	532	948	555	98	295	74
1988.....		29,528	3,362	20,377	3,846	16,531	371	3,779	1,957	377	302	818	325	547	1,026	599	105	322	66
1989.....		32,277	3,566	22,317	4,324	17,993	374	4,188	2,120	417	347	933	370	603	1,159	695	112	352	70
1990.....		34,896	3,652	24,399	5,967	18,432	386	4,405	2,139	453	377	1,031	404	689	1,284	780	120	384	81
1991.....		38,629	4,093	27,013	5,588	21,425	433	4,608	2,230	468	392	1,091	428	927	1,468	921	129	419	86

U.S. applied research expenditures, by performing and funding sectors: 1953–2006

(Millions of current dollars)

Year	Performing sector:		Industry ^a				Industry FFRDCs	U&C ^b					U&C FFRDCs	Other nonprofit institutions				Nonprofit FFRDCs
	Total	Federal	Total	Federal ^c	Industry ^d	Federal ^e	Total	Federal	Nonfederal ^f	Industry	U&C	Nonprofit	Federal ^g	Total	Federal ^h	Industry	Nonprofit	Federal ⁱ
1992.....	37,933	4,337	25,660	4,476	21,184	507	4,880	2,413	479	414	1,120	454	940	1,528	933	138	456	81
1993.....	37,280	4,838	24,251	4,295	19,956	435	5,146	2,539	496	443	1,181	487	962	1,544	900	148	497	103
1994.....	36,615	4,985	22,988	3,616	19,372	503	5,388	2,641	517	464	1,256	509	982	1,659	960	158	541	111
1995.....	40,932	4,952	26,919	3,164	23,755	535	5,655	2,775	559	494	1,311	516	1,050	1,692	934	170	589	129
1996.....	43,165	4,872	29,010	3,640	25,370	231	5,879	2,860	583	524	1,390	522	1,270	1,781	960	182	640	122
1997.....	46,551	4,997	32,430	2,648	29,782	213	5,520	2,548	552	518	1,388	512	1,337	1,926	1,011	205	711	128
1998.....	46,388	5,146	32,208	2,632	29,576	230	5,220	2,286	526	520	1,376	512	1,372	2,089	1,060	223	806	123
1999.....	52,096	5,530	36,638	2,817	33,821	274	5,836	2,740	545	541	1,461	549	1,251	2,437	1,300	249	888	130
2000.....	56,932	6,105	39,176	2,682	36,494	269	6,652	3,350	572	553	1,586	592	1,329	3,183	1,831	283	1,069	217
2001.....	64,706	7,052	44,012	3,603	40,409	935	7,260	3,752	602	550	1,715	639	1,485	3,631	2,150	287	1,194	332
2002.....	51,033	7,487	28,533	2,452	26,081	1,103	7,972	4,214	648	548	1,862	700	1,685	3,944	2,267	275	1,402	309
2003.....	61,448	7,672	37,334	4,473	32,861	1,434	8,589	4,637	705	548	1,969	729	1,756	4,300	2,487	283	1,529	363
2004.....	70,093	7,532	45,432	4,775	40,657	1,521	8,997	4,951	731	556	2,012	747	1,935	4,312	2,496	292	1,525	364
2005.....	71,207	7,870	45,284	5,289	39,995	1,532	9,584	5,298	744	589	2,165	788	1,918	4,611	2,576	318	1,718	407
2006.....	74,653	7,750	48,441	5,446	42,995	1,482	10,050	5,451	777	623	2,363	836	1,805	4,726	2,559	342	1,825	399

NA = not available

FFRDC = federally funded research and development center; U&C = universities and colleges

^aCharacter-of-work estimates for industry R&D revised for 1998 on; therefore, data not directly comparable with data for 1997 and earlier.^bAdjustments made to university R&D for 1998 on to eliminate double counting of funds passed through from one academic institution to another. Character-of-work estimation procedure for university and college R&D also revised for 1998 on; therefore, data not directly comparable with data for 1997 and earlier.^cExpenditures of industry FFRDCs for 1953–63 not separated from total federal support to industrial sector; therefore, value for federal support to industry includes support to FFRDCs for those years. Similarly for expenditures of nonprofit FFRDCs, included in federal support for nonprofit institutions in 1953–80.^dIndustry sources of industry R&D expenditures include all nonfederal sources of industry R&D expenditures.^eBecause of limitations in survey information, data on nonfederal government funding to other performers not available and consequently included in other sectors' support for their own R&D, e.g., nonfederal government support to nonprofits is included in nonprofit support for their own R&D.^fIncludes all R&D expenditures of FFRDCs administered by academic institutions.

NOTES: All data for calendar years. For some performers, these levels are approximations based on fiscal year data. For federal government expenditures starting in 1977, calendar-year approximation is 75% of amount reported in same fiscal year plus 25% of amount reported in subsequent fiscal year. Academic expenditures in all years and federal government expenditures before 1977 each 50% because those fiscal years (for most academic institutions and federal government before 1977) began on 1 July instead of 1 October. Technical notes explaining methodological issues of measurement available from National Science Foundation (NSF), Division of Science Resources Statistics (SRS) on request. Data based on annual reports by performers except for nonprofit sector. Preliminary data for 2005 and 2006. For trend comparisons, use only historical data reported here. Table incorporates latest revisions to prior-year data. Do not use data published earlier.

SOURCES: NSF/SRS, Research and Development in Industry 2005 (2007); Academic Research and Development Expenditures: Fiscal Year 2005 (2007); Federal Funds for Research and Development: Fiscal Years 2004, 2005, and 2006 (2007); and Survey of Research and Development Funding and Performance by Nonprofit Organizations: FY 1996–97 (2001).

U.S. inflation-adjusted applied research expenditures, by performing sector and source of funds: 1953–2006

(Millions of constant 2000 dollars)

Year	Performing sector:	Total	Federal	Industry ^a			Industry FFRDCs	U&C ^b						U&C FFRDCs	Other nonprofit institutions				Nonprofit FFRDCs
	Funding sector:	Total	Federal	Total	Federal ^c	Industry ^d	Federal ^e	Total	Federal	Nonfederal ^e	Industry	U&C	Nonprofit	Federal ^f	Total	Federal ^g	Industry	Nonprofit	Federal ^h
1953.....		7,065	1,902	3,979	1,579	2,401	NA	732	323	165	36	153	55	260	192	77	60	55	NA
1954.....		7,482	1,789	4,420	1,748	2,671	NA	741	323	171	41	152	54	315	217	87	71	60	NA
1955.....		8,074	1,776	4,951	1,963	2,987	NA	755	336	172	45	145	56	363	229	96	75	59	NA
1956.....		9,938	1,993	6,538	2,444	4,094	NA	753	335	171	52	139	57	405	250	106	72	72	NA
1957.....		12,044	2,223	8,334	3,384	4,951	NA	731	314	169	57	135	55	469	287	117	70	100	NA
1958.....		13,455	2,517	9,323	3,776	5,547	NA	739	320	172	59	133	56	539	337	146	68	122	NA
1959.....		14,165	2,778	9,595	3,918	5,677	NA	805	373	178	60	135	58	581	407	205	72	130	NA
1960.....		14,567	2,921	9,643	3,959	5,684	NA	882	442	184	62	137	57	611	511	297	81	133	NA
1961.....		14,678	3,139	9,292	3,816	5,475	NA	933	486	188	61	139	59	681	632	388	80	164	NA
1962.....		17,144	3,285	11,355	4,688	6,667	NA	1,002	549	188	63	141	60	753	749	452	88	209	NA
1963.....		17,730	3,712	11,273	4,620	6,653	NA	1,053	585	193	64	148	62	853	840	528	87	225	NA
1964.....		18,983	4,277	11,468	4,419	7,049	280	1,155	642	204	61	169	79	917	886	587	86	212	NA
1965.....		19,408	4,409	11,591	4,402	7,189	204	1,347	779	206	58	187	118	912	945	621	93	231	NA
1966.....		20,074	4,366	12,038	4,254	7,784	229	1,514	897	203	60	209	145	919	1,007	658	104	246	NA
1967.....		20,290	4,472	11,852	4,114	7,738	347	1,626	994	191	65	225	151	942	1,050	695	105	251	NA
1968.....		20,620	4,462	12,190	3,837	8,353	349	1,626	1,001	185	64	221	155	885	1,108	747	112	249	NA
1969.....		20,859	4,701	12,207	3,518	8,689	363	1,595	981	184	61	206	163	815	1,178	803	122	252	NA
1970.....		20,893	4,845	12,095	3,458	8,637	352	1,636	1,015	186	64	203	169	774	1,191	817	120	254	NA
1971.....		20,176	4,687	11,581	3,137	8,443	232	1,726	1,058	209	64	232	163	745	1,205	832	118	256	NA
1972.....		20,377	4,754	11,294	2,801	8,493	355	2,050	1,295	246	68	271	171	743	1,182	804	116	262	NA
1973.....		20,897	4,796	11,665	2,773	8,892	345	2,275	1,411	275	82	314	193	636	1,181	807	113	261	NA
1974.....		21,149	4,758	12,003	2,606	9,397	346	2,285	1,372	277	91	339	206	549	1,209	835	111	262	NA
1975.....		21,292	5,031	11,660	2,608	9,052	366	2,458	1,446	298	101	370	242	576	1,201	829	109	263	NA
1976.....		22,331	5,146	12,302	2,570	9,732	415	2,592	1,481	317	111	412	271	653	1,223	840	111	272	NA
1977.....		22,601	4,867	12,687	2,603	10,084	496	2,633	1,463	315	119	454	282	695	1,223	830	112	281	NA
1978.....		23,394	4,899	13,255	2,612	10,643	514	2,725	1,477	330	132	507	279	708	1,294	893	113	287	NA
1979.....		24,415	4,874	14,077	2,634	11,444	505	2,861	1,600	326	144	531	260	726	1,371	969	112	291	NA
1980.....		25,377	4,711	15,127	3,007	12,120	509	3,002	1,688	321	163	570	260	779	1,250	848	110	292	NA
1981.....		27,621	4,620	17,593	3,454	14,139	504	3,012	1,611	337	182	613	269	714	1,062	661	108	292	115
1982.....		29,044	4,466	19,061	4,134	14,927	585	3,052	1,605	331	193	641	283	690	1,045	634	109	301	145
1983.....		31,129	4,587	20,723	4,949	15,774	635	3,245	1,721	330	217	680	298	726	1,094	664	113	317	119
1984.....		33,184	4,376	22,493	5,435	17,059	809	3,446	1,812	346	248	726	313	811	1,130	679	117	334	119
1985.....		36,435	4,497	25,282	6,766	18,516	904	3,625	1,860	375	284	785	321	831	1,179	702	122	355	118
1986.....		38,231	4,497	26,851	5,683	21,168	883	3,901	1,955	418	321	871	337	777	1,217	710	128	379	106
1987.....		38,186	4,598	26,217	5,515	20,702	851	4,398	2,244	455	355	966	377	726	1,295	758	133	403	101
1988.....		39,009	4,442	26,920	5,081	21,839	490	4,993	2,586	498	399	1,081	429	722	1,355	791	138	426	87
1989.....		41,087	4,540	28,409	5,504	22,904	476	5,331	2,699	531	442	1,188	471	767	1,475	884	143	448	89
1990.....		42,769	4,476	29,904	7,313	22,591	473	5,399	2,622	555	462	1,264	495	844	1,573	955	147	470	100
1991.....		45,746	4,848	31,989	6,617	25,372	513	5,457	2,641	554	464	1,292	507	1,097	1,739	1,091	153	496	102

U.S. inflation-adjusted applied research expenditures, by performing sector and source of funds: 1953–2006

(Millions of constant 2000 dollars)

Year	Performing sector:		Federal	Industry ^a			Industry FFRDCs		U&C ^b				U&C FFRDCs		Other nonprofit institutions			Nonprofit FFRDCs
	Total	Federal		Total	Federal ^c	Industry ^d	Federal ^e	Total	Federal	Nonfederal ^f	Industry	U&C	Nonprofit	Federal ^f	Total	Federal ^c	Industry	Nonprofit
1992.....	43,912	5,020	29,704	5,181	24,523	587	5,649	2,793	554	479	1,296	526	1,089	1,769	1,081	160	528	94
1993.....	42,182	5,474	27,439	4,860	22,580	492	5,823	2,873	561	501	1,336	552	1,089	1,748	1,018	167	562	116
1994.....	40,567	5,523	25,469	4,006	21,463	557	5,969	2,926	573	514	1,392	563	1,087	1,838	1,063	176	599	123
1995.....	44,440	5,377	29,226	3,435	25,791	581	6,140	3,013	607	536	1,424	560	1,140	1,837	1,014	184	639	140
1996.....	45,992	5,191	30,910	3,878	27,032	246	6,264	3,047	622	558	1,481	557	1,353	1,898	1,022	193	682	130
1997.....	48,789	5,237	33,989	2,775	31,214	223	5,785	2,671	579	543	1,455	537	1,402	2,019	1,059	215	745	135
1998.....	48,084	5,334	33,386	2,728	30,658	238	5,411	2,370	545	539	1,427	531	1,422	2,165	1,099	231	836	128
1999.....	53,231	5,650	37,436	2,878	34,558	280	5,964	2,800	557	553	1,492	561	1,278	2,490	1,328	255	907	132
2000.....	56,931	6,105	39,176	2,682	36,494	269	6,652	3,350	572	553	1,586	592	1,329	3,183	1,831	283	1,069	217
2001.....	63,190	6,887	42,981	3,519	39,462	913	7,090	3,664	588	538	1,675	624	1,450	3,546	2,100	280	1,166	324
2002.....	48,982	7,187	27,386	2,353	25,033	1,059	7,651	4,045	622	526	1,787	671	1,618	3,785	2,176	264	1,346	296
2003.....	57,750	7,210	35,087	4,204	30,883	1,348	8,072	4,358	663	515	1,851	686	1,651	4,041	2,337	266	1,437	341
2004.....	64,055	6,883	41,518	4,364	37,155	1,390	8,222	4,525	668	508	1,838	683	1,769	3,941	2,281	266	1,393	333
2005.....	63,162	6,981	40,168	4,691	35,477	1,359	8,502	4,700	660	522	1,921	699	1,702	4,090	2,285	282	1,524	361
2006.....	64,308	6,676	41,728	4,691	37,037	1,277	8,657	4,695	669	537	2,036	720	1,555	4,071	2,204	295	1,572	344

NA = not available

FFRDC = federally funded research and development center; U&C = universities and colleges

^aCharacter-of-work estimates for industry R&D revised for 1998 on; therefore, data not directly comparable with data for 1997 and earlier.^bAdjustments made to university R&D for 1998 on to eliminate double counting of funds passed through from one academic institution to another. Character-of-work estimation procedure for university and college R&D also revised for 1998 on; therefore, data not directly comparable with data for 1997 and earlier.^cExpenditures of industry FFRDCs for 1953–63 not separated from total federal support to industrial sector; therefore, value for federal support to industry includes support to FFRDCs for those years. Similarly for expenditures of nonprofit FFRDCs, included in federal support for nonprofit institutions in 1953–80.^dIndustry sources of industry R&D expenditures include all nonfederal sources of industry R&D expenditures.^eBecause of limitations in survey information, data on nonfederal government funding to other performers not available and consequently included in other sectors' support for their own R&D, e.g., nonfederal government support to nonprofits is included in nonprofit support for their own R&D.^fIncludes all R&D expenditures of FFRDCs administered by academic institutions.

NOTES: All data for calendar years. For some performers, these levels are approximations based on fiscal year data. For federal government expenditures starting in 1977, calendar-year approximation is 75% of amount reported in same fiscal year plus 25% of amount reported in subsequent fiscal year. Academic expenditures in all years and federal government expenditures before 1977 each 50% because those fiscal years (for most academic institutions and federal government before 1977) began on 1 July instead of 1 October. Technical notes explaining methodological issues of measurement available from National Science Foundation (NSF), Division of Science Resources Statistics (SRS) on request. Data based on annual reports by performers except for nonprofit sector. Preliminary data for 2005 and 2006. For trend comparisons, use only historical data reported here. Table incorporates latest revisions to prior-year data. Do not use data published earlier.

SOURCES: NSF/SRS, Research and Development in Industry 2005 (2007); Academic Research and Development Expenditures: Fiscal Year 2005 (2007); Federal Funds for Research and Development: Fiscal Years 2004, 2005, and 2006 (2007); and Survey of Research and Development Funding and Performance by Nonprofit Organizations: FY 1996–97 (2001).

U.S. applied research expenditures, by funding and performing sectors: 1953–2006

(Millions of current dollars)

Year	Funding sector:																		
	Performing sector:	Total	Federal							Industry				U&C	Nonprofit		Nonfederal ^a		
	Total	Total	Federal	Industry ^{b,c}	Industry FFRDCs ^b	U&C ^d	U&C FFRDCs ^e	Nonprofit ^b	Nonprofit FFRDCs ^b	Total	Industry ^{c,f}	U&C ^d	Nonprofit	U&C ^d	Total	Nonprofit	U&C ^d	U&C ^d	
1953.....	1,289	756	347	288	NA	59	48	14	NA	456	438	7	11	28	20	10	10	30	
1954.....	1,378	785	330	322	NA	60	58	16	NA	513	492	8	13	28	21	11	10	32	
1955.....	1,514	850	333	368	NA	63	68	18	NA	583	560	9	14	27	22	11	11	32	
1956.....	1,928	1,025	387	474	NA	65	79	21	NA	818	794	10	14	27	25	14	11	33	
1957.....	2,414	1,304	446	678	NA	63	94	24	NA	1,018	992	12	14	27	31	20	11	34	
1958.....	2,758	1,496	516	774	NA	66	111	30	NA	1,163	1,137	12	14	27	37	25	12	35	
1959.....	2,940	1,630	577	813	NA	78	121	43	NA	1,206	1,178	13	15	28	39	27	12	37	
1960.....	3,065	1,732	615	833	NA	93	129	63	NA	1,226	1,196	13	17	29	40	28	12	39	
1961.....	3,123	1,811	668	812	NA	104	145	83	NA	1,195	1,165	13	17	30	48	35	13	40	
1962.....	3,698	2,098	709	1,011	NA	119	163	98	NA	1,471	1,438	14	19	30	58	45	13	41	
1963.....	3,865	2,245	809	1,007	NA	128	186	115	NA	1,483	1,450	14	19	32	63	49	14	42	
1964.....	4,201	2,462	947	978	62	142	203	130	NA	1,593	1,560	14	19	37	65	47	18	45	
1965.....	4,374	2,553	994	992	46	176	206	140	NA	1,654	1,620	13	21	42	79	52	27	46	
1966.....	4,653	2,625	1,012	986	53	208	213	153	NA	1,842	1,804	14	24	48	91	57	34	47	
1967.....	4,848	2,763	1,069	983	83	238	225	166	NA	1,890	1,849	16	25	54	96	60	36	46	
1968.....	5,137	2,811	1,112	956	87	250	221	186	NA	2,125	2,081	16	28	55	101	62	39	46	
1969.....	5,454	2,924	1,229	920	95	257	213	210	NA	2,320	2,272	16	32	54	109	66	43	48	
1970.....	5,752	3,100	1,334	952	97	280	213	225	NA	2,429	2,378	18	33	56	117	70	47	51	
1971.....	5,833	3,091	1,355	907	67	306	216	241	NA	2,494	2,441	19	34	67	121	74	47	61	
1972.....	6,147	3,243	1,434	845	107	391	224	243	NA	2,618	2,562	21	35	82	131	79	52	74	
1973.....	6,655	3,429	1,527	883	110	450	203	257	NA	2,894	2,832	26	36	100	145	83	62	88	
1974.....	7,344	3,634	1,652	905	120	477	191	290	NA	3,333	3,263	32	39	118	163	91	72	96	
1975.....	8,091	4,125	1,912	991	139	550	219	315	NA	3,520	3,440	39	42	141	192	100	92	113	
1976.....	8,976	4,464	2,068	1,033	167	596	263	338	NA	4,001	3,912	45	45	166	218	109	109	127	
1977.....	9,662	4,683	2,081	1,113	212	626	297	355	NA	4,410	4,311	51	48	194	241	120	121	134	
1978.....	10,704	5,080	2,242	1,195	235	676	324	409	NA	4,982	4,870	61	52	232	259	132	128	151	
1979.....	12,097	5,602	2,415	1,305	250	793	360	480	NA	5,797	5,670	71	55	263	273	144	129	161	
1980.....	13,714	6,237	2,546	1,625	275	912	421	458	NA	6,698	6,550	88	60	308	298	158	140	174	
1981.....	16,329	6,837	2,731	2,042	298	953	422	391	68	8,531	8,359	108	64	363	332	173	159	199	
1982.....	18,218	7,599	2,802	2,593	367	1,007	433	398	91	9,553	9,363	121	69	402	367	189	178	207	
1983.....	20,298	8,660	2,991	3,227	414	1,122	473	433	78	10,501	10,286	141	74	443	401	207	194	215	
1984.....	22,451	9,419	2,961	3,677	547	1,226	548	459	80	11,788	11,541	168	79	491	438	226	212	234	
1985.....	25,401	10,848	3,135	4,717	630	1,296	580	490	82	13,191	12,908	198	85	547	471	247	224	262	
1986.....	27,240	10,334	3,204	4,049	629	1,393	554	506	75	15,402	15,082	229	91	620	510	270	240	298	
1987.....	27,951	10,755	3,366	4,037	623	1,643	532	555	74	15,511	15,153	260	98	707	571	295	276	333	
1988.....	29,528	10,748	3,362	3,846	371	1,957	547	599	66	16,938	16,531	302	105	818	647	322	325	377	
1989.....	32,277	11,752	3,566	4,324	374	2,120	603	695	70	18,452	17,993	347	112	933	722	352	370	417	
1990.....	34,896	13,694	3,652	5,967	386	2,139	689	780	81	18,930	18,432	377	120	1,031	788	384	404	453	
1991.....	38,629	14,278	4,093	5,588	433	2,230	927	921	86	21,946	21,425	392	129	1,091	847	419	428	468	

U.S. applied research expenditures, by funding and performing sectors: 1953–2006

(Millions of current dollars)

Year	Funding sector:																	
	Performing sector:	Total	Federal								Industry				U&C	Nonprofit		Nonfederal ^a
	Total	Total	Federal	Industry ^{b,c}	FFRDCs ^b	U&C ^d	U&C FFRDCs ^e	Nonprofit ^b	FFRDCs ^b	Total	Industry ^{c,f}	U&C ^d	Nonprofit	U&C ^d	Total	Nonprofit	U&C ^d	U&C ^d
1992.....	37,933	13,688	4,337	4,476	507	2,413	940	933	81	21,736	21,184	414	138	1,120	911	456	454	479
1993.....	37,280	14,072	4,838	4,295	435	2,539	962	900	103	20,547	19,956	443	148	1,181	984	497	487	496
1994.....	36,615	13,797	4,985	3,616	503	2,641	982	960	111	19,995	19,372	464	158	1,256	1,050	541	509	517
1995.....	40,932	13,540	4,952	3,164	535	2,775	1,050	934	129	24,418	23,755	494	170	1,311	1,104	589	516	559
1996.....	43,165	13,954	4,872	3,640	231	2,860	1,270	960	122	26,076	25,370	524	182	1,390	1,162	640	522	583
1997.....	46,551	12,882	4,997	2,648	213	2,548	1,337	1,011	128	30,505	29,782	518	205	1,388	1,223	711	512	552
1998.....	46,388	12,849	5,146	2,632	230	2,286	1,372	1,060	123	30,319	29,576	520	223	1,376	1,318	806	512	526
1999.....	52,096	14,042	5,530	2,817	274	2,740	1,251	1,300	130	34,612	33,821	541	249	1,461	1,437	888	549	545
2000.....	56,932	15,783	6,105	2,682	269	3,350	1,329	1,831	217	37,330	36,494	553	283	1,586	1,660	1,069	592	572
2001.....	64,706	19,309	7,052	3,603	935	3,752	1,485	2,150	332	41,246	40,409	550	287	1,715	1,834	1,194	639	602
2002.....	51,033	19,518	7,487	2,452	1,103	4,214	1,685	2,267	309	26,903	26,081	548	275	1,862	2,102	1,402	700	648
2003.....	61,448	22,822	7,672	4,473	1,434	4,637	1,756	2,487	363	33,693	32,861	548	283	1,969	2,259	1,529	729	705
2004.....	70,093	23,575	7,532	4,775	1,521	4,951	1,935	2,496	364	41,504	40,657	556	292	2,012	2,272	1,525	747	731
2005.....	71,207	24,890	7,870	5,289	1,532	5,298	1,918	2,576	407	40,901	39,995	589	318	2,165	2,506	1,718	788	744
2006.....	74,653	24,892	7,750	5,446	1,482	5,451	1,805	2,559	399	43,960	42,995	623	342	2,363	2,660	1,825	836	777

NA = not available

FFRDC = federally funded research and development center; U&C = universities and colleges

^aBecause of limitations in survey information, data on nonfederal government funding to other performers not available and consequently included in other sectors' support for their own R&D, e.g., nonfederal government support to nonprofits is included in nonprofit support for their own R&D.

^bExpenditures of industry FFRDCs for 1953–63 not separated from total federal support to industrial sector; therefore, value for federal support to industry includes support to FFRDCs for those years. Similarly for expenditures of nonprofit FFRDCs, included in federal support for nonprofit institutions in 1953–80.

^cCharacter-of-work estimates for industry R&D revised for 1998 on; therefore, data not directly comparable with data for 1997 and earlier.

^dAdjustments made to university R&D for 1998 on to eliminate double counting of funds passed through from one academic institution to another. Character-of-work estimation procedure for university and college R&D also revised for 1998 on; therefore, data not directly comparable with data for 1997 and earlier.

^eIncludes all R&D expenditures of FFRDCs administered by academic institutions.

^fIndustry sources of industry R&D expenditures include all nonfederal sources of industry R&D expenditures.

NOTES: All data for calendar years. For some performers, these levels are approximations based on fiscal year data. For federal government expenditures starting in 1977, calendar-year approximation is 75% of amount reported in same fiscal year plus 25% of amount reported in subsequent fiscal year. Academic expenditures in all years and federal government expenditures before 1977 each 50% because those fiscal years (for most academic institutions and federal government before 1977) began on 1 July instead of 1 October. Technical notes explaining methodological issues of measurement available from National Science Foundation (NSF), Division of Science Resources Statistics (SRS) on request. Data based on annual reports by performers except for nonprofit sector. Preliminary data for 2005 and 2006. For trend comparisons, use only historical data reported here. Table incorporates latest revisions to prior-year data. Do not use data published earlier.

SOURCES: NSF/SRS, Research and Development in Industry 2005 (forthcoming); Academic Research and Development Expenditures: Fiscal Year 2005 (2007); Federal Funds for Research and Development: Fiscal Years 2004, 2005, and 2006 (2007); and Survey of Research and Development Funding and Performance by Nonprofit Organizations: FY 1996–97 (2001).

U.S. inflation-adjusted applied research expenditures, by funding and performing sectors: 1953–2006

(Millions of constant 2000 dollars)

Year	Funding sector:	Federal										Industry				U&C	Nonprofit		Nonfederal ^a	
	Performing sector:	Total	Total	Federal	Industry ^{b,c}	FFRDCs ^b	U&C ^d	U&C FFRDCs ^e	Nonprofit ^b	Nonprofit FFRDCs ^b	Total	Industry ^{c,f}	U&C ^d	Nonprofit	U&C ^d	Total	Nonprofit	U&C ^d	U&C ^d	
1953.....		7,065	4,141	1,902	1,579	NA	323	260	77	NA	2,497	2,401	36	60	153	110	55	55	165	
1954.....		7,482	4,262	1,789	1,748	NA	323	315	87	NA	2,783	2,671	41	71	152	114	60	54	171	
1955.....		8,074	4,534	1,776	1,963	NA	336	363	96	NA	3,107	2,987	45	75	145	115	59	56	172	
1956.....		9,938	5,282	1,993	2,444	NA	335	405	106	NA	4,218	4,094	52	72	139	129	72	57	171	
1957.....		12,044	6,508	2,223	3,384	NA	314	469	117	NA	5,078	4,951	57	70	135	155	100	55	169	
1958.....		13,455	7,298	2,517	3,776	NA	320	539	146	NA	5,674	5,547	59	68	133	178	122	56	172	
1959.....		14,165	7,855	2,778	3,918	NA	373	581	205	NA	5,809	5,677	60	72	135	188	130	58	178	
1960.....		14,567	8,229	2,921	3,959	NA	442	611	297	NA	5,827	5,684	62	81	137	190	133	57	184	
1961.....		14,678	8,511	3,139	3,816	NA	486	681	388	NA	5,616	5,475	61	80	139	223	164	59	188	
1962.....		17,144	9,728	3,285	4,688	NA	549	753	452	NA	6,818	6,667	63	88	141	269	209	60	188	
1963.....		17,730	10,298	3,712	4,620	NA	585	853	528	NA	6,804	6,653	64	87	148	287	225	62	193	
1964.....		18,983	11,123	4,277	4,419	280	642	917	587	NA	7,196	7,049	61	86	169	291	212	79	204	
1965.....		19,408	11,327	4,409	4,402	204	779	912	621	NA	7,340	7,189	58	93	187	348	231	118	206	
1966.....		20,074	11,324	4,366	4,254	229	897	919	658	NA	7,948	7,784	60	104	209	390	246	145	203	
1967.....		20,290	11,564	4,472	4,114	347	994	942	695	NA	7,908	7,738	65	105	225	402	251	151	191	
1968.....		20,620	11,281	4,462	3,837	349	1,001	885	747	NA	8,530	8,353	64	112	221	403	249	155	185	
1969.....		20,859	11,181	4,701	3,518	363	981	815	803	NA	8,872	8,689	61	122	206	415	252	163	184	
1970.....		20,893	11,261	4,845	3,458	352	1,015	774	817	NA	8,820	8,637	64	120	203	423	254	169	186	
1971.....		20,176	10,692	4,687	3,137	232	1,058	745	832	NA	8,625	8,443	64	118	232	419	256	163	209	
1972.....		20,377	10,750	4,754	2,801	355	1,295	743	804	NA	8,677	8,493	68	116	271	433	262	171	246	
1973.....		20,897	10,768	4,796	2,773	345	1,411	636	807	NA	9,087	8,892	82	113	314	454	261	193	275	
1974.....		21,149	10,466	4,758	2,606	346	1,372	549	835	NA	9,599	9,397	91	111	339	468	262	206	277	
1975.....		21,292	10,856	5,031	2,608	366	1,446	576	829	NA	9,263	9,052	101	109	370	505	263	242	298	
1976.....		22,331	11,105	5,146	2,570	415	1,481	653	840	NA	9,954	9,732	111	111	412	544	272	271	317	
1977.....		22,601	10,955	4,867	2,603	496	1,463	695	830	NA	10,316	10,084	119	112	454	563	281	282	315	
1978.....		23,394	11,103	4,899	2,612	514	1,477	708	893	NA	10,888	10,643	132	113	507	566	287	279	330	
1979.....		24,415	11,307	4,874	2,634	505	1,600	726	969	NA	11,699	11,444	144	112	531	551	291	260	326	
1980.....		25,377	11,541	4,711	3,007	509	1,688	779	848	NA	12,394	12,120	163	110	570	552	292	260	321	
1981.....		27,621	11,565	4,620	3,454	504	1,611	714	861	115	14,430	14,139	182	108	613	561	292	269	337	
1982.....		29,044	12,114	4,466	4,134	585	1,605	690	634	145	15,229	14,927	193	109	641	585	301	283	331	
1983.....		31,129	13,281	4,587	4,949	635	1,721	726	664	119	16,104	15,774	217	113	680	615	317	298	330	
1984.....		33,184	13,921	4,376	5,435	809	1,812	811	679	119	17,424	17,059	248	117	726	648	334	313	346	
1985.....		36,435	15,560	4,497	6,766	904	1,860	831	702	118	18,921	18,516	284	122	785	676	355	321	375	
1986.....		38,231	14,504	4,497	5,683	883	1,955	777	710	106	21,617	21,168	321	128	871	716	379	337	418	
1987.....		38,186	14,694	4,598	5,515	851	2,244	726	758	101	21,190	20,702	355	133	966	780	403	377	455	
1988.....		39,009	14,199	4,442	5,081	490	2,586	722	791	87	22,377	21,839	399	138	1,081	855	426	429	498	
1989.....		41,087	14,960	4,540	5,504	476	2,699	767	884	89	23,489	22,904	442	143	1,188	919	448	471	531	
1990.....		42,769	16,784	4,476	7,313	473	2,622	844	955	100	23,201	22,591	462	147	1,264	966	470	495	555	
1991.....		45,746	16,909	4,848	6,617	513	2,641	1,097	1,091	102	25,989	25,372	464	153	1,292	1,003	496	507	554	

U.S. inflation-adjusted applied research expenditures, by funding and performing sectors: 1953–2006

(Millions of constant 2000 dollars)

Year	Funding sector:																		
	Performing sector:	Total	Federal								Industry				U&C	Nonprofit		Nonfederal ^a	
	Total	Total	Federal	Industry ^{b,c}	FFRDCs ^b	U&C ^d	U&C FFRDCs ^e	Nonprofit ^b	FFRDCs ^b	Total	Industry ^{c,f}	U&C ^d	Nonprofit	U&C ^d	Total	Nonprofit	U&C ^d	U&C ^d	
1992.....	43,912	15,846	5,020	5,181	587	2,793	1,089	1,081	94	25,162	24,523	479	160	1,296	1,054	528	526	554	
1993.....	42,182	15,922	5,474	4,860	492	2,873	1,089	1,018	116	23,248	22,580	501	167	1,336	1,114	562	552	561	
1994.....	40,567	15,286	5,523	4,006	557	2,926	1,087	1,063	123	22,153	21,463	514	176	1,392	1,163	599	563	573	
1995.....	44,440	14,700	5,377	3,435	581	3,013	1,140	1,014	140	26,511	25,791	536	184	1,424	1,199	639	560	607	
1996.....	45,992	14,868	5,191	3,878	246	3,047	1,353	1,022	130	27,783	27,032	558	193	1,481	1,239	682	557	622	
1997.....	48,789	13,502	5,237	2,775	223	2,671	1,402	1,059	135	31,972	31,214	543	215	1,455	1,282	745	537	579	
1998.....	48,084	13,319	5,334	2,728	238	2,370	1,422	1,099	128	31,428	30,658	539	231	1,427	1,366	836	531	545	
1999.....	53,231	14,347	5,650	2,878	280	2,800	1,278	1,328	132	35,366	34,558	553	255	1,492	1,468	907	561	557	
2000.....	56,931	15,783	6,105	2,682	269	3,350	1,329	1,831	217	37,330	36,494	553	283	1,586	1,660	1,069	592	572	
2001.....	63,190	18,856	6,887	3,519	913	3,664	1,450	2,100	324	40,280	39,462	538	280	1,675	1,791	1,166	624	588	
2002.....	48,982	18,733	7,187	2,353	1,059	4,045	1,618	2,176	296	25,822	25,033	526	264	1,787	2,017	1,346	671	622	
2003.....	57,750	21,448	7,210	4,204	1,348	4,358	1,651	2,337	341	31,665	30,883	515	266	1,851	2,123	1,437	686	663	
2004.....	64,055	21,544	6,883	4,364	1,390	4,525	1,769	2,281	333	37,929	37,155	508	266	1,838	2,076	1,393	683	668	
2005.....	63,162	22,078	6,981	4,691	1,359	4,700	1,702	2,285	361	36,281	35,477	522	282	1,921	2,223	1,524	699	660	
2006.....	64,308	21,442	6,676	4,691	1,277	4,695	1,555	2,204	344	37,868	37,037	537	295	2,036	2,292	1,572	720	669	

NA = not available

FFRDC = federally funded research and development center; U&C = universities and colleges

^aBecause of limitations in survey information, data on nonfederal government funding to other performers not available and consequently included in other sectors' support for their own R&D, e.g., nonfederal government support to nonprofits is included in nonprofit support for their own R&D.

^bExpenditures of industry FFRDCs for 1953–63 not separated from total federal support to industrial sector; therefore, value for federal support to industry includes support to FFRDCs for those years. Similarly for expenditures of nonprofit FFRDCs, included in federal support for nonprofit institutions in 1953–80.

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NOTES: All data for calendar years. For some performers, these levels are approximations based on fiscal year data. For federal government expenditures starting in 1977, calendar-year approximation is 75% of amount reported in same fiscal year plus 25% of amount reported in subsequent fiscal year. Academic expenditures in all years and federal government expenditures before 1977 each 50% because those fiscal years (for most academic institutions and federal government before 1977) began on 1 July instead of 1 October. Technical notes explaining methodological issues of measurement available from National Science Foundation (NSF), Division of Science Resources Statistics (SRS) on request. Data based on annual reports by performers except for nonprofit sector. Preliminary data for 2005 and 2006. For trend comparisons, use only historical data reported here. Table incorporates latest revisions to prior-year data. Do not use data published earlier.

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U.S. development expenditures, by performing and funding sectors: 1953–2006

(Millions of current dollars)

Year	Performing sector:	Total	Federal	Industry ^a			Industry FFRDCs	U&C ^b						U&C FFRDCs	Other nonprofit institutions				Nonprofit FFRDCs
	Funding sector:	Total	Federal	Total	Federal ^c	Industry ^d	Federal ^e	Total	Federal	Nonfederal ^e	Industry	U&C	Nonprofit	Federal ^f	Total	Federal ^g	Industry	Nonprofit	Federal ^h
1953.....		3,412	567	2,753	1,123	1,630	NA	16	9	3	1	3	1	48	29	17	6	6	NA
1954.....		3,734	537	3,090	1,405	1,685	NA	17	9	3	1	3	1	59	32	18	7	7	NA
1955.....		4,189	543	3,523	1,785	1,738	NA	21	12	4	2	3	1	69	34	19	8	7	NA
1956.....		5,855	631	5,084	2,817	2,267	NA	25	14	4	2	4	2	81	35	20	8	7	NA
1957.....		6,681	728	5,790	3,616	2,174	NA	26	12	5	3	4	2	101	37	21	8	8	NA
1958.....		7,214	842	6,183	3,942	2,241	NA	28	13	6	3	4	2	120	42	25	8	9	NA
1959.....		8,463	940	7,307	4,750	2,557	NA	31	16	6	3	5	2	134	51	32	9	10	NA
1960.....		9,360	1,003	8,104	5,169	2,935	NA	35	19	6	3	5	2	151	69	49	10	10	NA
1961.....		9,930	1,090	8,536	5,347	3,189	NA	38	22	7	2	5	2	170	97	73	10	14	NA
1962.....		10,115	1,227	8,526	5,280	3,246	NA	40	23	8	2	6	2	190	132	103	11	18	NA
1963.....		11,540	1,465	9,651	6,116	3,535	NA	40	22	8	2	6	2	219	165	134	11	20	NA
1964.....		12,506	1,680	10,004	6,156	3,848	359	49	30	8	2	7	3	227	188	159	11	18	NA
1965.....		13,215	1,789	10,637	6,218	4,419	298	71	48	9	2	8	4	207	215	183	12	20	NA
1966.....		14,490	1,886	11,810	6,849	4,961	271	87	61	9	2	10	5	200	236	199	14	23	NA
1967.....		15,332	1,943	12,539	6,795	5,744	302	93	66	9	3	10	7	208	247	208	15	24	NA
1968.....		16,154	1,904	13,370	7,044	6,326	293	102	72	8	4	9	9	226	259	217	16	26	NA
1969.....		17,051	2,016	14,071	6,944	7,127	332	110	80	7	5	8	10	246	277	231	18	28	NA
1970.....		16,925	2,258	13,698	6,232	7,466	340	112	84	6	5	7	10	249	268	220	18	30	NA
1971.....		17,399	2,473	13,924	6,167	7,757	391	98	69	8	4	9	9	267	246	194	19	33	NA
1972.....		18,743	2,639	15,043	6,533	8,510	402	101	63	12	4	14	9	291	267	213	19	35	NA
1973.....		20,197	2,657	16,394	6,621	9,773	399	126	71	18	5	20	13	296	326	268	20	38	NA
1974.....		21,504	2,765	17,421	6,553	10,868	479	141	75	20	7	25	15	321	377	314	22	42	NA
1975.....		22,706	2,890	18,352	6,783	11,569	535	156	83	22	8	27	16	373	400	330	23	47	NA
1976.....		25,085	2,972	20,412	7,522	12,890	654	182	100	24	12	31	16	447	418	341	25	52	NA
1977.....		27,667	3,188	22,603	8,275	14,328	675	254	153	28	15	40	19	503	444	359	27	58	NA
1978.....		31,056	3,676	25,216	8,756	16,460	753	373	254	32	15	49	24	542	496	403	30	64	NA
1979.....		35,445	3,944	29,033	9,888	19,145	810	469	336	34	16	56	28	603	586	483	32	71	NA
1980.....		40,765	4,072	33,848	10,957	22,891	882	518	362	38	19	68	31	719	726	612	35	79	NA
1981.....		46,305	4,530	38,547	12,791	25,756	950	568	386	44	24	80	35	778	485	360	37	88	447
1982.....		51,879	5,178	43,434	14,215	29,219	989	597	397	46	27	88	39	745	500	362	40	98	436
1983.....		57,771	6,106	48,064	15,522	32,542	1,054	617	399	47	31	97	43	832	599	447	44	109	500
1984.....		66,461	7,078	55,371	17,640	37,731	1,056	677	435	51	37	108	47	986	762	594	47	120	530
1985.....		74,522	8,011	62,020	20,258	41,762	1,102	756	486	57	43	120	49	1,244	829	644	51	134	560
1986.....		75,855	8,275	62,871	21,517	41,354	1,145	818	513	65	50	136	53	1,504	790	587	55	149	453
1987.....		79,929	8,176	66,789	24,122	42,667	1,230	945	599	73	57	155	61	1,670	698	474	60	165	421
1988.....		84,566	8,864	70,353	23,719	46,634	1,414	1,098	698	83	66	180	71	1,762	655	407	65	183	420
1989.....		87,723	9,355	72,725	21,049	51,676	1,423	1,227	773	92	76	205	81	1,782	780	507	70	203	430
1990.....		94,067	9,700	78,376	18,966	59,410	1,438	1,407	909	99	83	226	89	1,735	920	619	75	226	490
1991.....		95,104	8,778	80,286	17,256	63,030	1,383	1,533	1,011	103	86	239	94	1,537	1,054	722	82	251	533

U.S. development expenditures, by performing and funding sectors: 1953–2006

(Millions of current dollars)

Year	Performing sector:	Total	Federal	Industry ^a			Industry FFRDCs	U&C ^b					U&C FFRDCs	Other nonprofit institutions				Nonprofit FFRDCs	
	Funding sector:	Total	Federal	Total	Federal ^c	Industry ^d	Federal ^e	Total	Federal	Nonfederal ^f	Industry	U&C	Nonprofit	Federal ^g	Total	Federal ^h	Industry	Nonprofit	Federal ⁱ
1992.....		99,810	9,098	84,569	17,181	67,388	1,372	1,595	1,054	105	91	246	100	1,452	1,125	758	88	279	599
1993.....		99,704	9,071	84,757	16,083	68,674	1,038	1,699	1,126	109	97	259	107	1,374	1,191	787	95	309	574
1994.....		102,937	8,823	87,890	16,209	71,681	1,196	1,815	1,212	114	102	276	112	1,378	1,261	815	103	343	573
1995.....		113,077	9,262	97,342	17,824	79,518	1,208	1,810	1,178	123	108	288	113	1,616	1,236	744	111	381	603
1996.....		121,375	9,033	105,863	17,066	88,797	1,358	1,790	1,127	128	115	305	115	1,520	1,241	698	120	423	571
1997.....		128,676	9,077	113,184	18,121	95,063	1,292	1,707	1,055	121	114	305	112	1,454	1,378	687	155	536	585
1998.....		144,736	9,214	129,041	18,452	110,589	1,280	1,629	985	115	114	302	112	1,527	1,537	760	168	609	507
1999.....		154,068	8,974	138,807	16,571	122,236	1,208	1,391	711	120	119	321	120	1,636	1,586	727	188	671	467
2000.....		167,862	8,047	153,745	13,510	140,235	1,185	1,177	452	125	121	348	130	1,539	1,537	517	214	807	632
2001.....		165,245	9,114	149,952	12,542	137,410	534	1,271	501	132	121	377	140	1,637	1,793	675	217	901	945
2002.....		174,157	9,501	157,788	13,061	144,727	625	1,352	528	142	120	409	154	1,703	2,156	890	207	1,059	1,031
2003.....		172,468	10,416	155,060	11,939	143,121	725	1,514	646	155	120	432	160	1,798	1,853	485	214	1,155	1,102
2004.....		173,297	10,778	155,034	14,419	140,615	789	1,696	808	161	122	442	164	1,993	1,798	426	220	1,151	1,209
2005.....		192,148	11,952	172,208	15,512	156,696	899	1,766	825	163	129	475	173	2,088	1,996	460	240	1,297	1,239
2006.....		204,257	11,720	184,421	15,973	168,448	816	1,840	830	171	137	519	183	2,168	2,031	395	258	1,378	1,262

NA = not available

FFRDC = federally funded research and development center; U&C = universities and colleges

^aCharacter-of-work estimates for industry R&D revised for 1998 on; therefore, data not directly comparable with data for 1997 and earlier.^bAdjustments made to university R&D for 1998 on to eliminate double counting of funds passed through from one academic institution to another. Character-of-work estimation procedure for university and college R&D also revised for 1998 on; therefore, data not directly comparable with data for 1997 and earlier.^cExpenditures of industry FFRDCs for 1953–63 not separated from total federal support to industrial sector; therefore, value for federal support to industry includes support to FFRDCs for those years. Similarly for expenditures of nonprofit FFRDCs, included in federal support for nonprofit institutions in 1953–80.^dIndustry sources of industry R&D expenditures include all nonfederal sources of industry R&D expenditures.^eBecause of limitations in survey information, data on nonfederal government funding to other performers not available and consequently included in other sectors' support for their own R&D, e.g., nonfederal government support to nonprofits is included in nonprofit support for their own R&D.^fIncludes all R&D expenditures of FFRDCs administered by academic institutions.

NOTES: All data for calendar years. For some performers, these levels are approximations based on fiscal year data. For federal government expenditures starting in 1977, calendar-year approximation is 75% of amount reported in same fiscal year plus 25% of amount reported in subsequent fiscal year. Academic expenditures in all years and federal government expenditures before 1977 each 50% because those fiscal years (for most academic institutions and federal government before 1977) began on 1 July instead of 1 October. Technical notes explaining methodological issues of measurement available from National Science Foundation (NSF), Division of Science Resources Statistics (SRS) on request. Data based on annual reports by performers except for nonprofit sector. Preliminary data for 2005 and 2006. For trend comparisons, use only historical data reported here. Table incorporates latest revisions to prior-year data. Do not use data published earlier.

SOURCES: NSF/SRS, Research and Development in Industry 2005 (forthcoming); Academic Research and Development Expenditures: Fiscal Year 2005 (2007); Federal Funds for Research and Development: Fiscal Years 2004, 2005, and 2006 (2007); and Survey of Research and Development Funding and Performance by Nonprofit Organizations: FY 1996–97 (2001).

Science and Engineering Indicators 2008

U.S. inflation-adjusted development expenditures, by performing and funding sectors: 1953–2006

(Millions of constant 2000 dollars)

Year	Performing sector:	Total	Federal	Industry ^a			Industry FFRDCs	U&C ^b						U&C FFRDCs	Other nonprofit institutions				Nonprofit FFRDCs
	Funding sector:	Total	Federal	Total	Federal ^c	Industry ^d	Federal ^e	Total	Federal	Nonfederal ^e	Industry	U&C	Nonprofit	Federal ^f	Total	Federal ^g	Industry	Nonprofit	Federal ^h
1953.....		18,699	3,105	15,089	6,155	8,934	NA	88	47	16	5	14	5	260	156	90	33	33	NA
1954.....		20,274	2,916	16,777	7,629	9,149	NA	92	46	19	5	17	5	318	171	95	38	38	NA
1955.....		22,347	2,894	18,794	9,522	9,272	NA	112	61	20	8	17	5	368	179	99	43	37	NA
1956.....		30,186	3,251	26,214	14,525	11,689	NA	129	70	23	10	19	8	415	178	101	41	36	NA
1957.....		33,341	3,631	28,895	18,045	10,849	NA	130	60	26	12	21	10	504	182	102	40	40	NA
1958.....		35,191	4,105	30,163	19,231	10,933	NA	134	61	28	15	21	10	585	202	120	39	44	NA
1959.....		40,783	4,530	35,212	22,890	12,322	NA	149	75	29	14	22	10	646	246	154	43	48	NA
1960.....		44,485	4,765	38,516	24,566	13,949	NA	164	90	30	12	22	10	715	326	231	48	48	NA
1961.....		46,667	5,120	40,118	25,130	14,988	NA	176	101	32	9	24	9	797	456	343	47	66	NA
1962.....		46,897	5,689	39,532	24,481	15,050	NA	185	104	36	9	27	9	881	610	475	51	83	NA
1963.....		52,943	6,721	44,279	28,060	16,219	NA	184	101	36	9	28	9	1,002	757	615	50	92	NA
1964.....		56,511	7,591	45,205	27,817	17,388	1,622	219	133	36	9	30	11	1,023	850	718	50	81	NA
1965.....		58,643	7,937	47,203	27,593	19,610	1,322	313	213	38	9	35	18	916	952	810	53	89	NA
1966.....		62,517	8,137	50,956	29,551	21,405	1,169	375	263	40	9	42	22	863	1,016	856	60	99	NA
1967.....		64,165	8,132	52,478	28,438	24,040	1,264	389	274	36	10	42	27	871	1,032	868	63	100	NA
1968.....		64,839	7,643	53,667	28,274	25,392	1,176	407	287	31	16	37	36	907	1,040	871	64	104	NA
1969.....		65,207	7,709	53,812	26,556	27,256	1,270	419	304	27	19	30	38	941	1,057	881	69	107	NA
1970.....		61,472	8,201	49,752	22,635	27,117	1,235	407	303	23	18	26	36	904	973	799	65	109	NA
1971.....		60,181	8,553	48,163	21,331	26,831	1,352	339	239	27	14	30	29	924	851	671	66	114	NA
1972.....		62,134	8,749	49,868	21,657	28,211	1,333	335	207	41	12	45	30	965	885	706	63	116	NA
1973.....		63,415	8,343	51,475	20,789	30,686	1,253	394	221	55	16	63	39	928	1,022	840	63	119	NA
1974.....		61,927	7,964	50,168	18,871	31,297	1,379	405	215	58	19	71	43	924	1,087	903	62	122	NA
1975.....		59,750	7,605	48,293	17,850	30,444	1,408	411	217	58	21	72	42	980	1,053	868	62	123	NA
1976.....		62,406	7,393	50,780	18,713	32,067	1,627	453	248	60	29	77	40	1,112	1,041	848	63	130	NA
1977.....		64,717	7,457	52,871	19,356	33,515	1,579	594	358	65	34	94	43	1,177	1,039	840	64	135	NA
1978.....		67,872	8,034	55,109	19,136	35,973	1,646	815	555	70	32	107	51	1,184	1,085	880	65	140	NA
1979.....		71,538	7,959	58,596	19,957	38,640	1,635	948	679	69	31	113	56	1,218	1,182	974	65	144	NA
1980.....		75,431	7,536	62,632	20,275	42,358	1,632	958	670	71	36	125	57	1,330	1,343	1,133	64	147	NA
1981.....		78,325	7,663	65,202	21,636	43,566	1,607	960	653	74	40	135	59	1,316	821	608	63	149	756
1982.....		82,709	8,255	69,245	22,662	46,583	1,577	952	634	73	42	141	62	1,187	798	578	64	156	696
1983.....		88,597	9,363	73,710	23,804	49,906	1,616	947	612	72	48	149	65	1,275	919	686	67	166	766
1984.....		98,235	10,462	81,843	26,073	55,770	1,561	1,001	643	76	54	159	69	1,458	1,127	879	70	178	784
1985.....		106,896	11,491	88,963	29,059	59,904	1,581	1,085	697	82	62	172	71	1,784	1,189	924	73	192	803
1986.....		106,464	11,614	88,240	30,199	58,041	1,607	1,148	720	92	71	191	74	2,111	1,109	823	78	209	635
1987.....		109,198	11,169	91,247	32,955	58,292	1,680	1,291	818	100	78	212	83	2,281	954	647	82	225	576
1988.....		111,722	11,710	92,944	31,335	61,609	1,868	1,450	922	109	88	237	94	2,328	866	538	85	242	555
1989.....		111,667	11,909	92,576	26,794	65,781	1,811	1,562	984	117	97	261	103	2,268	993	645	89	259	548
1990.....		115,292	11,889	96,061	23,245	72,815	1,762	1,724	1,115	122	102	277	109	2,127	1,128	759	92	277	601
1991.....		112,624	10,395	95,077	20,435	74,642	1,638	1,816	1,197	122	102	284	111	1,820	1,249	855	97	297	631

U.S. inflation-adjusted development expenditures, by performing and funding sectors: 1953–2006

(Millions of constant 2000 dollars)

Year	Performing sector:		Industry ^a				Industry FFRDCs		U&C ^b					U&C FFRDCs				Other nonprofit institutions				Nonprofit FFRDCs
	Total	Federal	Total	Federal ^c	Industry ^d	Federal ^e	Total	Federal	Nonfederal ^e	Industry	U&C	Nonprofit	Federal ^f	Total	Federal ^g	Industry	Nonprofit	Federal ^h				
1992.....	115,541	10,531	97,898	19,889	78,009	1,588	1,847	1,220	122	105	285	115	1,681	1,302	878	102	322	694				
1993.....	112,813	10,264	95,901	18,198	77,703	1,174	1,922	1,274	123	110	293	121	1,554	1,348	890	108	350	650				
1994.....	114,046	9,776	97,376	17,958	79,418	1,325	2,011	1,343	126	113	306	124	1,527	1,397	903	114	381	634				
1995.....	122,768	10,056	105,684	19,352	86,333	1,312	1,965	1,279	133	118	313	123	1,754	1,342	807	121	414	655				
1996.....	129,325	9,625	112,797	18,184	94,613	1,447	1,907	1,201	136	123	325	122	1,619	1,322	743	128	451	608				
1997.....	134,861	9,513	118,625	18,992	99,633	1,354	1,789	1,105	127	119	319	118	1,524	1,444	720	162	562	613				
1998.....	150,029	9,551	133,760	19,127	114,634	1,327	1,689	1,021	120	118	313	117	1,583	1,593	788	175	631	526				
1999.....	157,425	9,170	141,831	16,932	124,899	1,234	1,421	727	122	121	328	123	1,672	1,620	743	192	685	477				
2000.....	167,862	8,047	153,745	13,510	140,235	1,185	1,177	452	125	121	348	130	1,539	1,537	517	214	807	632				
2001.....	161,373	8,900	146,439	12,248	134,190	521	1,242	490	129	118	368	137	1,598	1,751	659	212	880	923				
2002.....	167,158	9,119	151,447	12,536	138,911	600	1,298	506	137	115	392	147	1,635	2,069	854	199	1,016	989				
2003.....	162,088	9,789	145,728	11,220	134,508	682	1,423	607	146	113	406	150	1,690	1,742	455	201	1,085	1,036				
2004.....	158,368	9,849	141,679	13,177	128,502	721	1,550	738	147	111	404	150	1,822	1,643	390	201	1,052	1,105				
2005.....	170,440	10,602	152,753	13,760	138,993	797	1,566	732	145	115	422	154	1,852	1,771	408	213	1,151	1,099				
2006.....	175,952	10,095	158,865	13,760	145,105	703	1,585	715	147	118	447	158	1,868	1,749	340	223	1,187	1,087				

NA = not available

FFRDC = federally funded research and development center; U&C = universities and colleges

^aCharacter-of-work estimates for industry R&D revised for 1998 on; therefore, data not directly comparable with data for 1997 and earlier.^bAdjustments made to university R&D for 1998 on to eliminate double counting of funds passed through from one academic institution to another. Character-of-work estimation procedure for university and college R&D also revised for 1998 on; therefore, data not directly comparable with data for 1997 and earlier.^cExpenditures of industry FFRDCs for 1953–63 not separated from total federal support to industrial sector; therefore, value for federal support to industry includes support to FFRDCs for those years. Similarly for expenditures of nonprofit FFRDCs, included in federal support for nonprofit institutions in 1953–80.^dIndustry sources of industry R&D expenditures include all nonfederal sources of industry R&D expenditures.^eBecause of limitations in survey information, data on nonfederal government funding to other performers not available and consequently included in other sectors' support for their own R&D, e.g., nonfederal government support to nonprofits is included in nonprofit support for their own R&D.^fIncludes all R&D expenditures of FFRDCs administered by academic institutions.

NOTES: All data for calendar years. For some performers, these levels are approximations based on fiscal year data. For federal government expenditures starting in 1977, calendar-year approximation is 75% of amount reported in same fiscal year plus 25% of amount reported in subsequent fiscal year. Academic expenditures in all years and federal government expenditures before 1977 each 50% because those fiscal years (for most academic institutions and federal government before 1977) began on 1 July instead of 1 October. Technical notes explaining methodological issues of measurement available from National Science Foundation (NSF), Division of Science Resources Statistics (SRS) on request. Data based on annual reports by performers except for nonprofit sector. Preliminary data for 2005 and 2006. For trend comparisons, use only historical data reported here. Table incorporates latest revisions to prior-year data. Do not use data published earlier.

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U.S. development expenditures, by funding and performing sectors: 1953–2006

(Millions of current dollars)

Year	Funding sector:																		
	Performing sector:	Total	Federal								Industry				U&C	Nonprofit		Nonfederal ^a	
	Total	Total	Federal	Industry ^{b,c}	Industry FFRDCs ^b	U&C ^d	U&C FFRDCs ^e	Nonprofit ^b	Nonprofit FFRDCs ^b	Total	Industry ^{c,f}	U&C ^d	Nonprofit	U&C ^d	Total	Nonprofit	U&C ^d	U&C ^d	
1953.....	3,412	1,762	567	1,123	NA	9	48	17	NA	1,637	1,630	1	6	3	7	6	1	3	
1954.....	3,734	2,027	537	1,405	NA	9	59	18	NA	1,693	1,685	1	7	3	8	7	1	3	
1955.....	4,189	2,427	543	1,785	NA	12	69	19	NA	1,748	1,738	2	8	3	8	7	1	4	
1956.....	5,855	3,561	631	2,817	NA	14	81	20	NA	2,277	2,267	2	8	4	9	7	2	4	
1957.....	6,681	4,477	728	3,616	NA	12	101	21	NA	2,185	2,174	3	8	4	10	8	2	5	
1958.....	7,214	4,941	842	3,942	NA	13	120	25	NA	2,252	2,241	3	8	4	11	9	2	6	
1959.....	8,463	5,872	940	4,750	NA	16	134	32	NA	2,569	2,557	3	9	5	12	10	2	6	
1960.....	9,360	6,390	1,003	5,169	NA	19	151	49	NA	2,948	2,935	3	10	5	12	10	2	6	
1961.....	9,930	6,701	1,090	5,347	NA	22	170	73	NA	3,201	3,189	2	10	5	16	14	2	7	
1962.....	10,115	6,822	1,227	5,280	NA	23	190	103	NA	3,259	3,246	2	11	6	20	18	2	8	
1963.....	11,540	7,956	1,465	6,116	NA	22	219	134	NA	3,548	3,535	2	11	6	22	20	2	8	
1964.....	12,506	8,610	1,680	6,156	359	30	227	159	NA	3,861	3,848	2	11	7	21	18	3	8	
1965.....	13,215	8,742	1,789	6,218	298	48	207	183	NA	4,433	4,419	2	12	8	24	20	4	9	
1966.....	14,490	9,466	1,886	6,849	271	61	200	199	NA	4,977	4,961	2	14	10	28	23	5	9	
1967.....	15,332	9,521	1,943	6,795	302	66	208	208	NA	5,762	5,744	3	15	10	31	24	7	9	
1968.....	16,154	9,756	1,904	7,044	293	72	226	217	NA	6,346	6,326	4	16	9	35	26	9	8	
1969.....	17,051	9,848	2,016	6,944	332	80	246	231	NA	7,150	7,127	5	18	8	38	28	10	7	
1970.....	16,925	9,382	2,258	6,232	340	84	249	220	NA	7,489	7,466	5	18	7	40	30	10	6	
1971.....	17,399	9,561	2,473	6,167	391	69	267	194	NA	7,780	7,757	4	19	9	42	33	9	8	
1972.....	18,743	10,141	2,639	6,533	402	63	291	213	NA	8,533	8,510	4	19	14	44	35	9	12	
1973.....	20,197	10,311	2,657	6,621	399	71	296	268	NA	9,798	9,773	5	20	20	51	38	13	18	
1974.....	21,504	10,506	2,765	6,553	479	75	321	314	NA	10,896	10,868	7	22	25	57	42	15	20	
1975.....	22,706	10,993	2,890	6,783	535	83	373	330	NA	11,600	11,569	8	23	27	63	47	16	22	
1976.....	25,085	12,035	2,972	7,522	654	100	447	341	NA	12,927	12,890	12	25	31	68	52	16	24	
1977.....	27,667	13,153	3,188	8,275	675	153	503	359	NA	14,370	14,328	15	27	40	76	58	19	28	
1978.....	31,056	14,383	3,676	8,756	753	254	542	403	NA	16,504	16,460	15	30	49	88	64	24	32	
1979.....	35,445	16,064	3,944	9,888	810	336	603	483	NA	19,193	19,145	16	32	56	99	71	28	34	
1980.....	40,765	17,604	4,072	10,957	882	362	719	612	NA	22,945	22,891	19	35	68	110	79	31	38	
1981.....	46,305	19,795	4,530	12,791	950	386	778	360	447	25,817	25,756	24	37	80	123	88	35	44	
1982.....	51,879	21,886	5,178	14,215	989	397	745	362	436	29,286	29,219	27	40	88	137	98	39	46	
1983.....	57,771	24,360	6,106	15,522	1,054	399	832	447	500	32,617	32,542	31	44	97	151	109	43	47	
1984.....	66,461	27,789	7,078	17,640	1,056	435	986	594	530	37,815	37,731	37	47	108	167	120	47	51	
1985.....	74,522	31,745	8,011	20,258	1,102	486	1,244	644	560	41,857	41,762	43	51	120	183	134	49	57	
1986.....	75,855	33,540	8,275	21,517	1,145	513	1,504	587	453	41,460	41,354	50	55	136	201	149	53	65	
1987.....	79,929	36,270	8,176	24,122	1,230	599	1,670	474	421	42,784	42,667	57	60	155	226	165	61	73	
1988.....	84,566	37,285	8,864	23,719	1,414	698	1,762	407	420	46,765	46,634	66	65	180	255	183	71	83	
1989.....	87,723	35,320	9,355	21,049	1,423	773	1,782	507	430	51,822	51,676	76	70	205	285	203	81	92	
1990.....	94,067	33,858	9,700	18,966	1,438	909	1,735	619	490	59,568	59,410	83	75	226	315	226	89	99	
1991.....	95,104	31,219	8,778	17,256	1,383	1,011	1,537	722	533	63,197	63,030	86	82	239	345	251	94	103	

U.S. development expenditures, by funding and performing sectors: 1953–2006

(Millions of current dollars)

Year	Funding sector:	Performing sector:																	
	Total	Total	Federal							Industry				U&C	Nonprofit		Nonfederal ^a		
	Total	Total	Federal	Industry ^{b,c}	FFRDCs ^b	U&C ^d	U&C	FFRDCs ^e	Nonprofit ^b	FFRDCs ^b	Total	Industry ^{c,f}	U&C ^d	Nonprofit	U&C ^d	Total	Nonprofit	U&C ^d	U&C ^d
1992.....	99,810	31,514	9,098	17,181	1,372	1,054	1,452	758	599	67,567	67,388	91	88	246	378	279	100	105	
1993.....	99,704	30,053	9,071	16,083	1,038	1,126	1,374	787	574	68,866	68,674	97	95	259	416	309	107	109	
1994.....	102,937	30,206	8,823	16,209	1,196	1,212	1,378	815	573	71,886	71,681	102	103	276	455	343	112	114	
1995.....	113,077	32,435	9,262	17,824	1,208	1,178	1,616	744	603	79,738	79,518	108	111	288	495	381	113	123	
1996.....	121,375	31,372	9,033	17,066	1,358	1,127	1,520	698	571	89,032	88,797	115	120	305	538	423	115	128	
1997.....	128,676	32,269	9,077	18,121	1,292	1,055	1,454	687	585	95,332	95,063	114	155	305	649	536	112	121	
1998.....	144,736	32,726	9,214	18,452	1,280	985	1,527	760	507	110,871	110,589	114	168	302	721	609	112	115	
1999.....	154,068	30,294	8,974	16,571	1,208	711	1,636	727	467	122,543	122,236	119	188	321	791	671	120	120	
2000.....	167,862	25,882	8,047	13,510	1,185	452	1,539	517	632	140,570	140,235	121	214	348	937	807	130	125	
2001.....	165,245	25,947	9,114	12,542	534	501	1,637	675	945	137,747	137,410	121	217	377	1,042	901	140	132	
2002.....	174,157	27,339	9,501	13,061	625	528	1,703	890	1,031	145,055	144,727	120	207	409	1,212	1,059	154	142	
2003.....	172,468	27,111	10,416	11,939	725	646	1,798	485	1,102	143,455	143,121	120	214	432	1,315	1,155	160	155	
2004.....	173,297	30,422	10,778	14,419	789	808	1,993	426	1,209	140,957	140,615	122	220	442	1,315	1,151	164	161	
2005.....	192,148	32,975	11,952	15,512	899	825	2,088	460	1,239	157,065	156,696	129	240	475	1,470	1,297	173	163	
2006.....	204,257	33,164	11,720	15,973	816	830	2,168	395	1,262	168,843	168,448	137	258	519	1,561	1,378	183	171	

NA = not available

FFRDC = federally funded research and development center; U&C = universities and colleges

^aBecause of limitations in survey information, data on nonfederal government funding to other performers not available and consequently included in other sectors' support for their own R&D, e.g., nonfederal government support to nonprofits is included in nonprofit support for their own R&D.

^bExpenditures of industry FFRDCs for 1953–63 not separated from total federal support to industrial sector; therefore, value for federal support to industry includes support to FFRDCs for those years. Similarly for expenditures of nonprofit FFRDCs, included in federal support for nonprofit institutions in 1953–80.

^cCharacter-of-work estimates for industry R&D revised for 1998 on; therefore, data not directly comparable with data for 1997 and earlier.

^dAdjustments made to university R&D for 1998 on to eliminate double counting of funds passed through from one academic institution to another. Character-of-work estimation procedure for university and college R&D also revised for 1998 on; therefore, data not directly comparable with data for 1997 and earlier.

^eIncludes all R&D expenditures of FFRDCs administered by academic institutions.

^fIndustry sources of industry R&D expenditures include all nonfederal sources of industry R&D expenditures.

NOTES: All data for calendar years. For some performers, these levels are approximations based on fiscal year data. For federal government expenditures starting in 1977, calendar-year approximation is 75% of amount reported in same fiscal year plus 25% of amount reported in subsequent fiscal year. Academic expenditures in all years and federal government expenditures before 1977 each 50% because those fiscal years (for most academic institutions and federal government before 1977) began on 1 July instead of 1 October. Technical notes explaining methodological issues of measurement available from National Science Foundation (NSF), Division of Science Resources Statistics (SRS) on request. Data based on annual reports by performers except for nonprofit sector. Preliminary data for 2005 and 2006. For trend comparisons, use only historical data reported here. Table incorporates latest revisions to prior-year data. Do not use data published earlier.

SOURCES: NSF/SRS, Research and Development in Industry 2005 (forthcoming); Academic Research and Development Expenditures: Fiscal Year 2005 (2007); Federal Funds for Research and Development: Fiscal Years 2004, 2005, and 2006 (2007); and Survey of Research and Development Funding and Performance by Nonprofit Organizations: FY 1996–97 (2001).

U.S. inflation-adjusted development expenditures, by funding and performing sectors: 1953–2006

(Millions of constant 2000 dollars)

Year	Funding sector:	Federal										Industry				U&C	Nonprofit		Nonfederal ^a	
	Performing sector:	Total	Total	Federal	Industry ^{b,c}	FFRDCs ^b	U&C ^d	U&C FFRDCs ^e	Nonprofit ^b	Nonprofit FFRDCs ^b	Total	Industry ^{c,f}	U&C ^d	Nonprofit	U&C ^d	Total	Nonprofit	U&C ^d	U&C ^d	
1953.....		18,699	9,658	3,105	6,155	NA	47	260	90	NA	8,972	8,934	5	33	14	38	33	5	16	
1954.....		20,274	11,003	2,916	7,629	NA	46	318	95	NA	9,192	9,149	5	38	17	43	38	5	19	
1955.....		22,347	12,944	2,894	9,522	NA	61	368	99	NA	9,322	9,272	8	43	17	43	37	5	20	
1956.....		30,186	18,361	3,251	14,525	NA	70	415	101	NA	11,740	11,689	10	41	19	44	36	8	23	
1957.....		33,341	22,342	3,631	18,045	NA	60	504	102	NA	10,902	10,849	12	40	21	50	40	10	26	
1958.....		35,191	24,102	4,105	19,231	NA	61	585	120	NA	10,986	10,933	15	39	21	54	44	10	28	
1959.....		40,783	28,295	4,530	22,890	NA	75	646	154	NA	12,380	12,322	14	43	22	58	48	10	29	
1960.....		44,485	30,367	4,765	24,566	NA	90	715	231	NA	14,008	13,949	12	48	22	57	48	10	30	
1961.....		46,667	31,491	5,120	25,130	NA	101	797	343	NA	15,044	14,988	9	47	24	75	66	9	32	
1962.....		46,897	31,631	5,689	24,481	NA	104	881	475	NA	15,111	15,050	9	51	27	93	83	9	36	
1963.....		52,943	36,500	6,721	28,060	NA	101	1,002	615	NA	16,278	16,219	9	50	28	101	92	9	36	
1964.....		56,511	38,906	7,591	27,817	1,622	133	1,023	718	NA	17,447	17,388	9	50	30	93	81	11	36	
1965.....		58,643	38,792	7,937	27,593	1,322	213	916	810	NA	19,672	19,610	9	53	35	107	89	18	38	
1966.....		62,517	40,841	8,137	29,551	1,169	263	863	856	NA	21,474	21,405	9	60	42	121	99	22	40	
1967.....		64,165	39,847	8,132	28,438	1,264	274	871	868	NA	24,113	24,040	10	63	42	128	100	27	36	
1968.....		64,839	39,158	7,643	28,274	1,176	287	907	871	NA	25,473	25,392	16	64	37	140	104	36	31	
1969.....		65,207	37,661	7,709	26,556	1,270	304	941	881	NA	27,344	27,256	19	69	30	145	107	38	27	
1970.....		61,472	34,077	8,201	22,635	1,235	303	904	799	NA	27,201	27,117	18	65	26	145	109	36	23	
1971.....		60,181	33,070	8,553	21,331	1,352	239	924	671	NA	26,911	26,831	14	66	30	144	114	29	27	
1972.....		62,134	33,617	8,749	21,657	1,333	207	965	706	NA	28,285	28,211	12	63	45	146	116	30	41	
1973.....		63,415	32,374	8,343	20,789	1,253	221	928	840	NA	30,764	30,686	16	63	63	159	119	39	55	
1974.....		61,927	30,256	7,964	18,871	1,379	215	924	903	NA	31,378	31,297	19	62	71	165	122	43	58	
1975.....		59,750	28,928	7,605	17,850	1,408	217	980	868	NA	30,527	30,444	21	62	72	165	123	42	58	
1976.....		62,406	29,941	7,393	18,713	1,627	248	1,112	848	NA	32,159	32,067	29	63	77	169	130	40	60	
1977.....		64,717	30,767	7,457	19,356	1,579	358	1,177	840	NA	33,613	33,515	34	64	94	179	135	43	65	
1978.....		67,872	31,434	8,034	19,136	1,646	555	1,184	880	NA	36,069	35,973	32	65	107	192	140	51	70	
1979.....		71,538	32,421	7,959	19,957	1,635	679	1,218	974	NA	38,735	38,640	31	65	113	200	144	56	69	
1980.....		75,431	32,575	7,536	20,275	1,632	670	1,330	1,133	NA	42,457	42,358	36	64	125	204	147	57	71	
1981.....		78,325	33,483	7,663	21,636	1,607	653	1,316	608	756	43,670	43,566	40	63	135	208	149	59	74	
1982.....		82,709	34,892	8,255	22,662	1,577	634	1,187	578	696	46,689	46,583	42	64	141	218	156	62	73	
1983.....		88,597	37,357	9,363	23,804	1,616	612	1,275	686	766	50,020	49,906	48	67	149	232	166	65	72	
1984.....		98,235	41,075	10,462	26,073	1,561	643	1,458	879	784	55,894	55,770	54	70	159	247	178	69	76	
1985.....		106,896	45,535	11,491	29,059	1,581	697	1,784	924	803	60,040	59,904	62	73	172	262	192	71	82	
1986.....		106,464	47,074	11,614	30,199	1,607	720	2,111	823	635	58,189	58,041	71	78	191	282	209	74	92	
1987.....		109,198	49,551	11,169	32,955	1,680	818	2,281	647	576	58,451	58,292	78	82	212	308	225	83	100	
1988.....		111,722	49,257	11,710	31,335	1,868	922	2,328	538	555	61,782	61,609	88	85	237	336	242	94	109	
1989.....		111,667	44,960	11,909	26,794	1,811	984	2,268	645	548	65,967	65,781	97	89	261	362	259	103	117	
1990.....		115,292	41,498	11,889	23,245	1,762	1,115	2,127	759	601	73,009	72,815	102	92	277	386	277	109	122	
1991.....		112,624	36,971	10,395	20,435	1,638	1,197	1,820	855	631	74,840	74,642	102	97	284	408	297	111	122	

U.S. inflation-adjusted development expenditures, by funding and performing sectors: 1953–2006

(Millions of constant 2000 dollars)

Year	Funding sector:	Performing sector:																	
	Total	Total	Federal							Industry				U&C	Nonprofit		Nonfederal ^a		
	Total	Total	Federal	Industry ^{b,c}	FFRDCs ^b	U&C ^d	U&C FFRDCs ^e	Nonprofit ^b	FFRDCs ^b	Total	Industry ^{c,f}	U&C ^d	Nonprofit	U&C ^d	Total	Nonprofit	U&C ^d	U&C ^d	
1992.....	115,541	36,480	10,531	19,889	1,588	1,220	1,681	878	694	78,216	78,009	105	102	285	438	322	115	122	
1993.....	112,813	34,005	10,264	18,198	1,174	1,274	1,554	890	650	77,921	77,703	110	108	293	471	350	121	123	
1994.....	114,046	33,466	9,776	17,958	1,325	1,343	1,527	903	634	79,644	79,418	113	114	306	504	381	124	126	
1995.....	122,768	35,214	10,056	19,352	1,312	1,279	1,754	807	655	86,571	86,333	118	121	313	537	414	123	133	
1996.....	129,325	33,427	9,625	18,184	1,447	1,201	1,619	743	608	94,864	94,613	123	128	325	573	451	122	136	
1997.....	134,861	33,821	9,513	18,992	1,354	1,105	1,524	720	613	99,914	99,633	119	162	319	680	562	118	127	
1998.....	150,029	33,922	9,551	19,127	1,327	1,021	1,583	788	526	114,926	114,634	118	175	313	747	631	117	120	
1999.....	157,425	30,954	9,170	16,932	1,234	727	1,672	743	477	125,213	124,899	121	192	328	808	685	123	122	
2000.....	167,862	25,882	8,047	13,510	1,185	452	1,539	517	632	140,570	140,235	121	214	348	937	807	130	125	
2001.....	161,373	25,339	8,900	12,248	521	490	1,598	659	923	134,520	134,190	118	212	368	1,017	880	137	129	
2002.....	167,158	26,240	9,119	12,536	600	506	1,635	854	989	139,225	138,911	115	199	392	1,164	1,016	147	137	
2003.....	162,088	25,479	9,789	11,220	682	607	1,690	455	1,036	134,822	134,508	113	201	406	1,236	1,085	150	146	
2004.....	158,368	27,802	9,849	13,177	721	738	1,822	390	1,105	128,814	128,502	111	201	404	1,202	1,052	150	147	
2005.....	170,440	29,249	10,602	13,760	797	732	1,852	408	1,099	139,321	138,993	115	213	422	1,304	1,151	154	145	
2006.....	175,952	28,568	10,095	13,760	703	715	1,868	340	1,087	145,446	145,105	118	223	447	1,345	1,187	158	147	

NA = not available

FFRDC = federally funded research and development center; U&C = universities and colleges

^aBecause of limitations in survey information, data on nonfederal government funding to other performers not available and consequently included in other sectors' support for their own R&D, e.g., nonfederal government support to nonprofits is included in nonprofit support for their own R&D.

^bExpenditures of industry FFRDCs for 1953–63 not separated from total federal support to industrial sector; therefore, value for federal support to industry includes support to FFRDCs for those years. Similarly for expenditures of nonprofit FFRDCs, included in federal support for nonprofit institutions in 1953–80.

^cCharacter-of-work estimates for industry R&D revised for 1998 on; therefore, data not directly comparable with data for 1997 and earlier.

^dAdjustments made to university R&D for 1998 on to eliminate double counting of funds passed through from one academic institution to another. Character-of-work estimation procedure for university and college R&D also revised for 1998 on; therefore, data not directly comparable with data for 1997 and earlier.

^eIncludes all R&D expenditures of FFRDCs administered by academic institutions.

^fIndustry sources of industry R&D expenditures include all nonfederal sources of industry R&D expenditures.

NOTES: All data for calendar years. For some performers, these levels are approximations based on fiscal year data. For federal government expenditures starting in 1977, calendar-year approximation is 75% of amount reported in same fiscal year plus 25% of amount reported in subsequent fiscal year. Academic expenditures in all years and federal government expenditures before 1977 each 50% because those fiscal years (for most academic institutions and federal government before 1977) began on 1 July instead of 1 October. Technical notes explaining methodological issues of measurement available from National Science Foundation (NSF), Division of Science Resources Statistics (SRS) on request. Data based on annual reports by performers except for nonprofit sector. Preliminary data for 2005 and 2006. For trend comparisons, use only historical data reported here. Table incorporates latest revisions to prior-year data. Do not use data published earlier.

SOURCES: NSF/SRS, Research and Development in Industry 2005 (forthcoming); Academic Research and Development Expenditures: Fiscal Year 2005 (2007); Federal Funds for Research and Development: Fiscal Years 2004, 2005, and 2006 (2007); and Survey of Research and Development Funding and Performance by Nonprofit Organizations: FY 1996–97 (2001).

Appendix table 4-19

Total (federal plus company and other) funds for industrial R&D performance in United States, by industry and company size: 2001–05

(Millions of dollars)

Industry/size of company	NAICS code	2001	2002	2003	2004	2005
All industries.....	21–23, 31–33, 42, 44–81	202,017	193,868	200,724	208,301	226,159
Manufacturing industries.....	31–33	124,217	112,089	120,858	147,288	158,190
Food.....	311	1,819	D	D	2,254	2,716
Beverage and tobacco products.....	312	152	170	173	555 i	539 i
Textiles, apparel, and leather.....	313–16	D	D	D	570	816
Wood products.....	321	182	D	D	D	D
Paper, printing, and support activities.....	322, 323	D	D	D	D	D
Petroleum and coal products.....	324	D	D	D	1,603	D
Chemicals.....	325	17,892	20,641	23,001	D	42,995
Basic chemicals.....	3251	1,876	1,782	2,061	2,393	2,277
Resin, synthetic rubber, fibers, and filament.....	3252	D	2,426	2,406	2,096	2,294
Pharmaceuticals and medicines.....	3254	10,137	D	D	31,477	34,839
Other chemicals.....	Other 325	D	D	D	D	3,584
Plastics and rubber products.....	326	D	D	1,764	D	1,760
Nonmetallic mineral products.....	327	990	D	474	787	894
Primary metals.....	331	485	473	530	727	631
Fabricated metal products.....	332	1,599	1,355	1,374	1,512	1,375
Machinery.....	333	6,404	6,429	6,304	6,579	8,531
Computer and electronic products.....	334	50,591	38,881	39,001	48,296	D
Computers and peripheral equipment.....	3341	D	3,040	2,587	5,734	4,955
Communications equipment.....	3342	19,019	9,739	9,198	D	D
Semiconductor and other electronic components.....	3344	14,358	11,919	12,635	D	18,724
Navigational, measuring, electromedical, and control instruments.....	3345	12,947	13,729	14,014	15,214	15,204
Other computer and electronic products.....	Other 334	D	453	566	1,148	997
Electrical equipment, appliances, and components.....	335	4,980	2,039	2,073	2,664	2,424
Transportation equipment.....	336	25,965	26,145	31,747	D	D
Motor vehicles, trailers, and parts.....	3361–63	D	D	D	15,677	D
Aerospace products and parts.....	3364	7,868	9,654	13,205	13,086	15,005
Other transportation equipment.....	Other 336	D	D	D	D	D
Furniture and related products.....	337	301	258	D	408	400
Miscellaneous manufacturing.....	339	6,606	7,457	7,455	4,388	5,143
Medical equipment and supplies.....	3391	D	D	6,386	3,343	4,374
Other miscellaneous manufacturing.....	Other 339	D	D	1,069	1,045	769
Nonmanufacturing industries.....	21–23, 42, 44–81	77,799	81,779	79,866	61,013	67,969
Mining, extraction, and support activities.....	21	D	D	D	D	D
Utilities.....	22	133	D	D	202	210
Construction.....	23	320	164	333	1,481	D
Wholesale trade.....	42	NA	D	25,092	D	D
Retail trade.....	44, 45	NA	932	1,488	1,596	D
Transportation and warehousing.....	48, 49	1,848	D	272	D	D
Information.....	51	D	17,870	D	22,593	23,836
Publishing.....	511	13,760	13,541	D	D	17,747
Newspaper, periodical, book, and database.....	5111	649	614	665	D	821
Software.....	5112	13,111	12,927	D	D	16,926
Broadcasting and telecommunications.....	513	D	D	1,663	2,215	NA
Telecommunications.....	5133	D	D	1,625	2,052	NA
Other broadcasting and telecommunications.....	Other 513	NA	NA	38	163	NA
Telecommunications.....	517	NA	NA	NA	NA	2,539
Wired and wireless (except satellite) telecommunications carriers.....	5171, 5172	NA	NA	NA	NA	2,358
Satellite telecommunications.....	5174	NA	NA	NA	NA	13
Other telecommunications.....	Other 517	NA	NA	NA	NA	168
Internet service providers, Web search portals, and data processing services.....	518	NA	NA	NA	NA	3,337
Internet service providers and Web search portals.....	5181	NA	NA	NA	NA	1,042
Data processing, hosting, and related services.....	5182	NA	NA	NA	NA	2,295
Other information.....	Other 51	D	D	D	D	213
Finance, insurance, and real estate.....	52, 53	D	1,903	1,455	1,708	3,030
Professional, scientific, and technical services.....	54	27,704	30,358	27,967	28,709	32,021
Architectural, engineering, and related services.....	5413	3,386	4,159	5,159	4,265	4,687

Appendix table 4-19

(Page 2 of 2)

Total (federal plus company and other) funds for industrial R&D performance in United States, by industry and company size: 2001–05

(Millions of dollars)

Industry/size of company	NAICS code	2001	2002	2003	2004	2005
Computer systems design and related services	5415	9,154	11,983	9,032	11,575	13,592
Scientific R&D services	5417	14,244	13,034	12,460	11,355	12,299
Other professional, scientific, and technical services	Other 54	920	1,182	1,316	1,514	1,444
Management of companies and enterprises ^a	55	381	148	67	NA	NA
Health care services	621–23	1,149	D	717	500	989
Other nonmanufacturing	56, 61, 624, 71, 72, 81	1,259	D	1,679	1,595	2,137
Company size (employees)						
All companies	na	202,017	193,868	200,724	208,301	226,159
5–24	na	4,828	4,261	5,578	6,295	7,373
25–49	na	3,750	3,845	6,449	5,906	7,488
50–99	na	8,202	6,164	4,829	6,456	7,144
100–249	na	12,916	13,227	9,559	11,045	10,327
250–499	na	8,702	8,055	9,536	8,380	8,149
500–999	na	10,564	9,925	10,383	10,821	13,992
1,000–4,999	na	26,748	28,625	30,484	31,475	34,969
5,000–9,999	na	17,438	17,942	15,434	18,191	18,170
10,000–24,999	na	27,065	26,458	26,817	31,208	33,564
25,000 or more	na	81,804	75,365	81,654	78,523	84,983

D = suppressed to avoid disclosure of confidential information; i = imputation of >50%; NA = not available; na = not applicable
 NAICS = North American Industry Classification System (1997 Rev. used to classify 2001–04 statistics; 2002 Rev. used for 2005)

^aEstimates for management of companies and enterprises (NAICS 55), shown separately for 2001–03, included in other manufacturing for 2004 and 2005.

NOTES: R&D is industrial R&D performed within company facilities funded from all sources. Funds are company's own; funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments; and funds from federal government. Excluded are R&D not performed within company (e.g., R&D contracted out to other organizations) and R&D not performed within 50 United States or District of Columbia (e.g., R&D performed outside United States by foreign subsidiaries or other foreign organizations). For more technical information, see <http://www.nsf.gov/statistics/srvyindustry>, accessed 17 April 2007.

SOURCE: National Science Foundation, Division of Science Resources Statistics, Survey of Industrial Research and Development.

Appendix table 4-20

(Page 1 of 2)

Company and other nonfederal funds for industrial R&D performance in United States, by industry and company size: 2001–05

(Millions of dollars)

Industry/size of company	NAICS code	2001	2002	2003	2004	2005
All industries.....	21–23, 31–33, 42, 44–81	185,118	177,467	182,926	188,035	204,250
Manufacturing industries.....	31–33	112,733	101,344	107,725	131,887	142,555
Food.....	311	1,818	2,034	1,987	2,249	2,710
Beverage and tobacco products.....	312	152	170	173	555 i	539 i
Textiles, apparel, and leather.....	313–16	255	248	309	568	811
Wood products.....	321	181	132	138	152	218
Paper, printing, and support activities.....	322, 323	2,664	2,620	2,909	2,308	2,451
Petroleum and coal products.....	324	1,057	1,233	1,308	1,595	1,442
Chemicals.....	325	17,713	20,395	22,693	39,070	42,826
Basic chemicals.....	3251	1,835	1,710	1,991	2,312	2,179
Resin, synthetic rubber, fibers, and filament.....	3252	2,745	2,413	2,390	2,080	2,280
Pharmaceuticals and medicines.....	3254	10,137	14,186	15,949	31,444	34,798
Other chemicals.....	Other 325	2,996	2,087	2,364	3,234	3,569
Plastics and rubber products.....	326	2,245	1,508	1,729	1,879	1,747
Nonmetallic mineral products.....	327	978	420	470	783	889
Primary metals.....	331	479	461	518	705	609
Fabricated metal products.....	332	1,545	1,251	1,329	1,465	1,323
Machinery.....	333	6,337	6,366	6,224	6,473	8,422
Computer and electronic products.....	334	44,744	33,411	32,495	40,691	42,463
Computers and peripheral equipment.....	3341	3,165	3,015	2,561	5,707	4,902
Communications equipment.....	3342	18,721	9,524	8,932	8,433	9,660
Semiconductor and other electronic components.....	3344	14,210	11,871	12,607	17,524	18,602
Navigational, measuring, electromedical, and control instruments.....	3345	7,565	8,549	7,834	7,882	8,325
Other computer and electronic products.....	Other 334	1,083	452	560	1,144	974
Electrical equipment, appliances, and components.....	335	4,680	1,978	2,002	2,622	2,322
Transportation equipment.....	336	21,004	21,452	25,757	26,019	28,321
Motor vehicles, trailers, and parts.....	3361–63	16,089	15,199	16,874	15,610	16,025
Aerospace products and parts.....	3364	4,083	5,349	7,849	9,224	10,928
Other transportation equipment.....	Other 336	832i	905	1,034	1,185	1,368
Furniture and related products.....	337	301	251	275	406	400
Miscellaneous manufacturing.....	339	6,581	7,414	7,408	4,348	5,061
Medical equipment and supplies.....	3391	5,903	6,179	6,370	3,313	4,343
Other miscellaneous manufacturing.....	Other 339	678	1,235	1,038	1,035	718
Nonmanufacturing industries.....	21–23, 42, 44–81	72,384	76,123	75,201	56,148	61,695
Mining, extraction, and support activities.....	21	846	715	750	714	669
Utilities.....	22	114	117	128	176	180
Construction.....	23	320	164	254	1,466	1,248
Wholesale trade.....	42	NA	24,037	24,970	1,540	2,144
Retail trade.....	44, 45	NA	932	1,462	1,596	1,285
Transportation and warehousing.....	48, 49	1,776	339	272	347	312
Information.....	51	17,259	17,764	19,811	22,285	23,617
Publishing.....	511	13,716	13,488	15,760	D	17,687
Newspaper, periodical, book, and database.....	5111	649	614	665	D	794
Software.....	5112	13,067	12,874	15,095	16,510	16,893
Broadcasting and telecommunications.....	513	1,270	1,637	1,663	2,215	NA
Telecommunications.....	5133	1,101	1,608	1,625	2,052	NA
Other broadcasting and telecommunications.....	Other 513	NA	NA	38	163	NA
Telecommunications.....	517	NA	NA	NA	NA	2,539
Wired and wireless (except satellite) telecommunications carriers ...	5171, 5172	NA	NA	NA	NA	2,358
Satellite telecommunications.....	5174	NA	NA	NA	NA	13
Other telecommunications.....	Other 517	NA	NA	NA	NA	168 i
Internet service providers, Web search portals, and data processing services.....	518	NA	NA	NA	NA	3,178
Internet service providers and Web search portals.....	5181	NA	NA	NA	NA	1,042
Data processing, hosting, and related services.....	5182	NA	NA	NA	NA	2,136
Other information.....	Other 51	2,273	2,639	2,388	D	213
Finance, insurance, and real estate.....	52, 53	2,424	1,903	1,455	1,708	3,030
Professional, scientific, and technical services.....	54	22,640	24,946	23,730	24,245	26,181
Architectural, engineering, and related services.....	5413	2,365	2,822	3,261	2,295	2,448
Computer systems design and related services.....	5415	8,656	10,394	8,613	11,197	13,046

Appendix table 4-20

(Page 2 of 2)

Company and other nonfederal funds for industrial R&D performance in United States, by industry and company size: 2001–05

(Millions of dollars)

Industry/size of company	NAICS code	2001	2002	2003	2004	2005
Scientific R&D services	5417	10,893	10,735	10,574	9,383	9,473
Other professional, scientific, and technical services	Other 54	726	996	1,283	1,370	1,214
Management of companies and enterprises ^a	55	381	148 i	67 i	NA	NA
Health care services	621–23	1,120	4,163	681	495	981
Other nonmanufacturing	56, 61, 624, 71, 72, 81	1,221	894	1,619	1,576	2,047
Company size (employees)						
All companies	na	185,118	177,467	182,926	188,035	204,250
5–24	na	4,175	3,471	4,824	5,610	6,297
25–49	na	3,548	3,586	5,540	5,293	6,813
50–99	na	7,654	5,701	4,271	5,849	6,498
100–249	na	12,012	12,622	8,924	9,987	9,375
250–499	na	8,143	7,370	8,869	7,832	7,738
500–999	na	9,936	9,394	9,624	10,060	13,097
1,000–4,999	na	26,140	27,640	29,396	30,982	33,605
5,000–9,999	na	15,787	16,369	14,333	16,173	17,550
10,000–24,999	na	26,161	25,232	25,551	29,647	31,646
25,000 or more	na	71,561	66,083	71,595	66,600	71,631

D = suppressed to avoid disclosure of confidential information; i = imputation of >50%; NA = not available; na = not applicable
 NAICS = North American Industry Classification System (1997 Rev. used to classify 2001–04 statistics; 2002 Rev. used for 2005)

^aEstimates for management of companies and enterprises (NAICS 55), shown separately for 2001–03, included in other manufacturing for 2004 and 2005.

NOTES: R&D is industrial R&D performed within company facilities funded from all sources except federal government. Funds predominantly company's own, but also include funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments. Excluded are R&D not performed within company (e.g., R&D contracted out to other organizations) and R&D not performed within 50 United States or District of Columbia (e.g., R&D performed outside United States by foreign subsidiaries or other foreign organizations). For more technical information, see <http://www.nsf.gov/statistics/srvyindustry>, accessed 17 April 2007.

SOURCE: National Science Foundation, Division of Science Resources Statistics, Survey of Industrial Research and Development.

Appendix table 4-21

Federal funds for industrial R&D performance in United States, by industry and company size: 2001–05

(Millions of dollars)

Industry/size of company	NAICS code	2001	2002	2003	2004	2005
All industries.....	21–23, 31–33, 42, 44–81	16,899	16,401	17,798	20,266	21,909
Manufacturing industries.....	31–33	11,484	10,745	13,133	15,401	15,635
Food.....	311	0	D	D	5	6
Beverage and tobacco products.....	312	0	0	0	0	0
Textiles, apparel, and leather.....	313–16	D	D	D	3	5
Wood products.....	321	0	D	D	D	D
Paper, printing, and support activities.....	322, 323	D	D	D	D	D
Petroleum and coal products.....	324	D	D	D	9	D
Chemicals.....	325	180	246	307	D	169
Basic chemicals.....	3251	42	72	70	80	98
Resin, synthetic rubber, fibers, and filament.....	3252	D	13	16	16	15
Pharmaceuticals and medicines.....	3254	0	D	D	33	41
Other chemicals.....	Other 325	D	D	D	D	15
Plastics and rubber products.....	326	D	D	35	D	12
Nonmetallic mineral products.....	327	11	D	4	5	6
Primary metals.....	331	6	12	12	21	22 i
Fabricated metal products.....	332	54	104	45	47	52
Machinery.....	333	67	62	80	105	109
Computer and electronic products.....	334	5,848	5,470	6,506	7,605	D
Computers and peripheral equipment.....	3341	D	25	27 i	27	53
Communications equipment.....	3342	298	215	266	D	D
Semiconductor and other electronic components.....	3344	148	48	28	D	122
Navigational, measuring, electromedical, and control instruments.....	3345	5,382	5,180	6,180	7,332	6,879
Other computer and electronic products.....	Other 334	D	1	6	3	23
Electrical equipment, appliances, and components.....	335	301 i	61	71	42	103
Transportation equipment.....	336	4,961	4,692	5,990	D	D
Motor vehicles, trailers, and parts.....	3361–63	D	D	D	67	D
Aerospace products and parts.....	3364	3,785	4,306	5,356	3,862	4,076
Other transportation equipment.....	Other 336	D	D	D	D	D
Furniture and related products.....	337	0	7	D	2	*
Miscellaneous manufacturing.....	339	25	44	47	39	82
Medical equipment and supplies.....	3391	D	D	17	30	31
Other miscellaneous manufacturing.....	Other 339	D	D	31	10	51
Nonmanufacturing industries.....	21–23, 42, 44–81	5,415	5,656	4,665	4,865	6,274
Mining, extraction, and support activities.....	21	D	D	D	D	D
Utilities.....	22	19	D	D	26	30
Construction.....	23	1	*	79	15	D
Wholesale trade.....	42	NA	D	122	D	D
Retail trade.....	44, 45	NA	0	26	0	D
Transportation and warehousing.....	48, 49	72	D	*	D	D
Information.....	51	D	106	D	307	219
Publishing.....	511	44	53	D	D	60
Newspaper, periodical, book, and database.....	5111	0	0	*	D	27
Software.....	5112	44	53	D	D	33
Broadcasting and telecommunications.....	513	D	D	0	0	0
Telecommunications.....	5133	D	D	0	0	0
Other broadcasting and telecommunications.....	Other 513	NA	NA	0	0	0
Telecommunications.....	517	NA	NA	NA	NA	0
Wired and wireless (except satellite) telecommunications carriers.....	5171, 5172	NA	NA	NA	NA	0
Satellite telecommunications.....	5174	NA	NA	NA	NA	0
Other telecommunications.....	Other 517	NA	NA	NA	NA	0
Internet service providers, Web search portals, and data processing services.....	518	NA	NA	NA	NA	159
Internet service providers and Web search portals.....	5181	NA	NA	NA	NA	0
Data processing, hosting, and related services.....	5182	NA	NA	NA	NA	159
Other information.....	Other 51	D	D	D	D	0
Finance, insurance, and real estate.....	52, 53	D	0	0	0	0
Professional, scientific, and technical services.....	54	5,065	5,412	4,237	4,464	5,839
Architectural, engineering, and related services.....	5413	1,021	1,337	1,898	1,970	2,239
Computer systems design and related services.....	5415	498	1,590	419	378	545

Appendix table 4-21

(Page 2 of 2)

Federal funds for industrial R&D performance in United States, by industry and company size: 2001–05

(Millions of dollars)

Industry/size of company	NAICS code	2001	2002	2003	2004	2005
Scientific R&D services	5417	3,352	2,299	1,886	1,972	2,826
Other professional, scientific, and technical services	Other 54	194	186	34	144	229
Management of companies and enterprises ^a	55	0	0	0	NA	NA
Health care services	621–23	29	D	36	5	7
Other nonmanufacturing	56, 61, 624, 71, 72, 81	38	D	60 i	19	90
Company size (employees)						
All companies	na	16,899	16,401	17,798	20,266	21,909
5–24	na	653	789	754	685	1,076
25–49	na	201	259	910	612	675
50–99	na	548	463	559	608	646
100–249	na	903	606	636	1,058	951
250–499	na	560	686	668	547	411
500–999	na	627	531	759	762	895
1,000–4,999	na	608	985	1,088	493	1,364
5,000–9,999	na	1,651	1,574	1,101	2,018	620
10,000–24,999	na	904	1,226	1,266	1,561	1,918
25,000 or more	na	10,243	9,282	10,059	11,923	13,352

* = ≤\$500,000; D = suppressed to avoid disclosure of confidential information; i = imputation of >50%; NA = not available; na = not applicable

NAICS = North American Industry Classification System (1997 Rev. used to classify 2001–04 statistics; 2002 Rev. used for 2005)

^aEstimates for management of companies and enterprises (NAICS 55), shown separately for 2001–03, included in other manufacturing for 2004 and 2005.NOTES: R&D is industrial R&D performed within company facilities funded by federal government. Excluded are R&D not performed within company (e.g., R&D contracted out to other organizations) and R&D not performed within 50 United States or District of Columbia (e.g., R&D performed outside United States by foreign subsidiaries or other foreign organizations). Totals exclude R&D at industry-administered federally funded research and development centers. For more technical information, see <http://www.nsf.gov/statistics/srvyindustry>, accessed 17 April 2007.

SOURCE: National Science Foundation, Division of Science Resources Statistics, Survey of Industrial Research and Development.

Appendix table 4-22

(Page 1 of 2)

Company and other (nonfederal) R&D fund share of net sales in R&D-performing companies, by industry and company size: 2001–05

(Percent)

Industry/size of company	NAICS code	2001	2002	2003	2004	2005
All industries.....	21–23, 31–33, 42, 44–81	3.8	3.6	3.2	3.4	3.3
Manufacturing industries.....	31–33	3.7	3.3	3.1	3.4	3.6
Food.....	311	0.5	0.6	0.6	0.6	0.7
Beverage and tobacco products.....	312	0.4	0.5	0.5	1.3 i	1.4 i
Textiles, apparel, and leather.....	313–16	0.8	0.8	1.0	1.2	1.6
Wood products.....	321	1.1	0.7	0.7	0.4	0.8
Paper, printing, and support activities.....	322, 323	2.1	1.3	1.1	1.5	1.5
Petroleum and coal products.....	324	0.3	0.4	0.3	0.4	0.4
Chemicals.....	325	4.8	5.9	5.6	6.6	6.9
Basic chemicals.....	3251	2.2	2.5	2.7	2.1	2.0
Resin, synthetic rubber, fibers, and filament.....	3252	4.5	3.9	3.6	3.1	1.7
Pharmaceuticals and medicines.....	3254	7.8	9.6	8.3	10.0	12.7
Other chemicals.....	Other 325	3.2	3.1	3.2	3.1	3.3
Plastics and rubber products.....	326	2.9	1.8	2.1	1.6	1.9
Nonmetallic mineral products.....	327	2.3	1.2	1.0	1.8	1.8
Primary metals.....	331	0.7	0.7	0.7	0.7	0.5
Fabricated metal products.....	332	1.6	1.4	1.5	1.4	0.8
Machinery.....	333	4.2	4.3	4.2	3.6	3.6
Computer and electronic products.....	334	11.0	8.0	9.3	8.0	9.0
Computers and peripheral equipment.....	3341	7.6	7.5	5.8	4.7	5.4
Communications equipment.....	3342	16.3	12.8	12.7	9.5	14.0
Semiconductor and other electronic components.....	3344	10.5	8.6	11.1	10.8	10.6
Navigational, measuring, electromedical, and control instruments.....	3345	7.3	5.4	7.2	7.1	7.0
Other computer and electronic products.....	Other 334	13.5	5.3	5.8	5.1	5.6
Electrical equipment, appliances, and components.....	335	2.9 i	2.7	2.2	2.7	2.3
Transportation equipment.....	336	3.4	2.8	2.7	2.7	3.0
Motor vehicles, trailers, and parts.....	3361–63	3.5	3.1	2.4	2.4	2.5
Aerospace products and parts.....	3364	3.0	2.3	3.5	4.0	4.8
Other transportation equipment.....	Other 336	2.5 i	2.9	2.7	1.6	1.6
Furniture and related products.....	337	0.9	0.8	0.8	0.8	0.8
Miscellaneous manufacturing.....	339	6.6	7.9	5.6	4.9	6.1
Medical equipment and supplies.....	3391	9.0	9.7	6.3	5.8	7.7
Other miscellaneous manufacturing.....	Other 339	2.0	4.1	3.2	3.2	2.7
Nonmanufacturing industries.....	21–23, 42, 44–81	4.0	4.1	3.3	3.2	2.9
Mining, extraction, and support activities.....	21	1.3	3.2	3.3	2.4	2.0
Utilities.....	22	0.0	0.1	0.1	0.1	0.1
Construction.....	23	1.4	0.6	1.2	2.6	2.2
Wholesale trade.....	42	NA	NA	3.6	2.2	2.0
Retail trade.....	44, 45	NA	NA	0.8	0.8	0.6
Transportation and warehousing.....	48, 49	2.4	0.5	0.4	0.5	0.4
Information.....	51	4.4	4.0	5.7	5.0	5.3
Publishing.....	511	15.0	16.4	17.9	19.1	17.1
Newspaper, periodical, book, and database.....	5111	2.7	2.8	2.8	4.0	3.0
Software.....	5112	19.3	21.4	23.4	23.3	21.9
Broadcasting and telecommunications.....	513	0.5	0.7 i	0.8	0.8	NA
Telecommunications.....	5133	0.5	0.7 i	0.8	D	NA
Other broadcasting and telecommunications.....	Other 513	NA	NA	4.3	D	NA
Telecommunications.....	517	NA	NA	NA	NA	1.0
Wired and wireless (except satellite) telecommunications carriers....	5171, 5172	NA	NA	NA	NA	1.1
Satellite telecommunications.....	5174	NA	NA	NA	NA	3.4
Other telecommunications.....	Other 517	NA	NA	NA	NA	0.5 i
Internet service providers, Web search portals, and data processing services.....	518	NA	NA	NA	NA	8.7
Internet service providers and Web search portals.....	5181	NA	NA	NA	NA	9.0
Data processing, hosting, and related services.....	5182	NA	NA	NA	NA	8.6
Other information.....	Other 51	4.7	2.0	5.0	4.4	0.5
Finance, insurance, and real estate.....	52, 53	0.7	0.6	0.3	0.4	0.5
Professional, scientific, and technical services.....	54	13.7	11.2	10.2	13.0	10.0
Architectural, engineering, and related services.....	5413	5.2	5.3	7.8	6.6	4.9
Computer systems design and related services.....	5415	16.5	14.3	9.8	11.7	9.6

Appendix table 4-22

(Page 2 of 2)

Company and other (nonfederal) R&D fund share of net sales in R&D-performing companies, by industry and company size: 2001–05

(Percent)

Industry/size of company	NAICS code	2001	2002	2003	2004	2005
Scientific R&D services	5417	36.5	17.6	16.5 i	29.6	27.4
Other professional, scientific, and technical services	Other 54	1.9	2.8	3.3	5.8	3.0
Management of companies and enterprises ^a	55	7.8	7.6	4.1 i	NA	NA
Health care services	621–23	4.1	15.1	2.2	1.8	3.9
Other nonmanufacturing	56, 61, 624, 71, 72, 81	1.4	1.9	4.9	3.9	2.7
Company size (employees)						
All companies	na	3.8	3.6	3.2	3.4	3.3
5–24	na	12.9	7.1	2.2	5.0 i	8.7
25–49	na	10.6	8.9	2.9	11.5	8.7
50–99	na	10.4	7.1	3.9	5.8	7.8
100–249	na	10.8	9.0	1.7	5.5	6.0
250–499	na	8.0	4.0	6.6	5.1	4.9
500–999	na	5.7	6.9	5.8	4.6	4.4
1,000–4,999	na	4.2	4.0	4.1	3.7	3.5
5,000–9,999	na	2.5	3.4	2.6	2.8	2.5
10,000–24,999	na	3.5	2.9	2.8	3.0	3.1
25,000 or more	na	3.1	2.9	3.2	2.8	2.8

D = suppressed to avoid disclosure of confidential information; i = imputation of >50%; NA = not available; na = not applicable
 NAICS = North American Industry Classification System (1997 Rev. used to classify 2001–04 statistics; 2002 Rev. used for 2005)

^aData for management of companies and enterprises (NAICS 55), reported separately for 2001–03, included in other manufacturing for 2004 and 2005.

NOTES: R&D is industrial R&D performed within company facilities funded from all sources except federal government. Funds predominantly company's own, but also include funds from outside organizations, such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments. Excluded are R&D not performed within company (e.g., R&D contracted out to other organizations) and R&D not performed within 50 United States or District of Columbia (e.g., R&D performed outside United States by foreign subsidiaries or other foreign organizations). For more technical information, see <http://www.nsf.gov/statistics/srvyindustry>, accessed 17 April 2007.

SOURCE: National Science Foundation, Division of Science Resources Statistics, Survey of Industrial Research and Development (2003).

R&D expenditures, by state, performing sector, and funding sector: 2004

(Millions of current dollars)

State	Performing sector:		Federal					Industry			U&C ^a				Other nonprofit institutions	
	Funding sector:	R&D rank	FFRDCs		Non-federal ^b		Total	Federal	Industry ^c	Other				Federal ^d		
			Federal	Total	Federal	Non-federal ^b				Federal	Industry ^c	U&C	Nonprofit			
All states ^e	283,439	na	21,438	12,704	12,351	353	201,131	20,655	176,180	42,832	27,294	2,836	2,103	7,760	2,839	5,335
Alabama	2,760	26	911	0	0	0	1,227	583	644	571	417	9	16	107	22	51
Alaska	271	49	81	0	0	0	35	8	28	147	83	3	17	41	3	9
Arizona	3,544	23	263	43	43	0	2,570	245	2,325	651	377	25	39	187	24	17
Arkansas	514	45	41	0	0	0	287	27	259	183	94	45	10	25	8	4
California	59,607	1	2,572	3,759	3,660	99	46,614	3,980	42,634	5,714	3,561	269	243	1,049	593	948
Colorado	5,497	16	277	381	374	7	4,008	118	3,890	772	605	24	36	71	36	58
Connecticut	7,881	11	30	0	0	0	7,177	1,717	5,460	650	469	7	25	82	67	25
Delaware	1,182	34	3	0	0	0	1,059	14	1,045	114	81	4	3	23	4	5
District of Columbia	2,383	27	1,641	4	4	0	182	68	114	303	240	4	8	17	35	253
Florida	5,409	17	554	0	0	0	3,486	1,270	2,216	1,307	747	200	72	237	51	62
Georgia	3,655	22	251	0	0	0	2,160	58	2,102	1,221	699	84	68	335	36	22
Hawaii	490	46	80	0	0	0	131	52	78	241	191	9	21	20	0	38
Idaho	1,006	35	27	180	168	13	681	11	670	117	65	21	5	24	2	1
Illinois	11,300	8	120	839	792	47	8,554	267	8,286	1,708	1,066	72	53	417	100	79
Indiana	5,130	18	77	0	0	0	4,208	232	3,976	841	365	54	55	311	56	5
Iowa	1,625	31	47	27	27	0	963	7	956	532	306	51	30	131	15	56
Kansas	2,169	28	31	0	0	0	1,804	D	D	333	171	46	9	93	14	2
Kentucky	1,006	36	11	0	0	0	565	11	554	424	195	53	10	126	40	6
Louisiana	972	37	90	0	0	0	311	19	293	568	239	114	29	135	50	4
Maine	384	47	11	0	0	0	213	D	D	87	39	11	4	31	3	74
Maryland	14,341	4	7,692	335	335	0	3,826	1,286	2,540	2,269	1,710	61	94	286	118	218
Massachusetts	15,987	3	368	595	589	6	11,819	2,331	9,488	2,000	1,581	42	122	107	149	1,205
Michigan	16,722	2	110	0	0	0	15,170	204	14,966	1,397	821	84	61	353	78	45
Minnesota	5,992	15	51	0	0	0	5,199	261	4,938	524	314	53	22	74	61	218
Mississippi	651	40	138	0	0	0	160	D	D	348	211	53	10	69	6	6
Missouri	3,038	25	32	0	0	0	2,151	84	2,067	842	543	37	29	191	42	14
Montana	295	48	62	0	0	0	70	3	67	155	97	21	6	29	1	9
Nebraska	740	39	27	0	0	0	383	6	377	325	130	12	21	142	20	6
Nevada	623	41	36	0	0	0	417	23	394	164	105	12	7	37	3	6
New Hampshire	1,665	30	55	0	0	0	1,330	D	D	277	191	7	11	48	20	3
New Jersey	12,460	7	563	75	75	1	10,993	294	10,699	806	420	59	35	219	74	24
New Mexico	5,114	19	417	3,927	3,867	61	450	176	275	304	204	13	14	64	9	17
New York	13,113	6	150	450	432	18	8,793	721	8,071	3,366	2,225	197	146	529	269	354
North Carolina	6,491	14	394	0	0	0	4,565	87	4,478	1,443	933	124	152	191	43	90
North Dakota	558	42	26	0	0	0	379	2	377	152	82	29	6	31	5	1
Ohio	7,816	12	751	0	0	0	5,516	395	5,121	1,318	848	109	73	230	59	231
Oklahoma	814	38	89	0	0	0	410	22	387	283	141	34	15	78	16	31

R&D expenditures, by state, performing sector, and funding sector: 2004

(Millions of current dollars)

State	Performing sector:		Funding sector:					Other nonprofit institutions								
	All R&D	R&D rank	Federal		FFRDCs		Industry		U&C ^a			Federal ^d				
			Federal	Total	Federal	Non-federal ^b	Total	Federal	Industry ^c	Total	Other government		U&C	Nonprofit		
Oregon	3,664	21	65	0	0	0	3,057	20	3,036	505	371	37	14	61	21	37
Pennsylvania	10,813	10	171	58	56	2	8,005	160	7,845	2,206	1,595	99	155	227	130	373
Rhode Island.....	1,840	29	260	0	0	0	1,320	D	D	192	133	7	4	43	5	68
South Carolina.....	1,599	33	54	94	94	0	961	37	924	456	245	19	23	155	13	34
South Dakota.....	149	50	16	0	0	0	72	3	69	57	38	11	1	6	2	4
Tennessee	3,180	24	50	776	750	26	1,630	322	1,308	658	436	54	20	112	36	67
Texas.....	14,266	5	260	17	15	1	10,992	610	10,382	2,881	1,647	355	162	411	305	117
Utah	1,602	32	95	0	0	0	1,089	174	915	414	286	25	10	67	27	4
Vermont.....	546	43	4	0	0	0	423	34	389	116	80	5	7	16	7	4
Virginia.....	7,345	13	1,976	406	398	9	4,006	1,499	2,507	849	527	85	51	138	48	109
Washington	10,936	9	222	693	629	64	8,840	146	8,694	897	706	41	50	71	29	285
West Virginia.....	523	44	131	42	42	0	202	D	D	130	80	5	4	39	3	18
Wisconsin.....	3,675	20	56	0	0	0	2,645	47	2,598	956	563	41	22	247	82	18
Wyoming	98	51	8	0	0	0	23	3	21	60	23	2	3	29	3	6
Other and unknown ^f	7,169	na	0	0	0	0	7,169	44	7,125	0	0	0	0	0	0	0

na = not applicable; D = suppressed to avoid disclosure of confidential information

FFRDC = federally funded research and development center; U&C = universities and colleges

^aState-level university R&D data not adjusted to eliminate double counting of funds passed through from one academic institution to another. At national level, funds passed through to educational subrecipients account for 2.9% of total R&D expenditures reported by universities and colleges in FY 2004.

^bNonfederal sources of R&D expenditures reported by FFRDCs in FY 2004 included state and local governments (\$37 million), industry (\$134 million), FFRDC institutional funds (\$34 million), and other sources (\$149 million).

^cIndustry sources of industry R&D expenditures include all nonfederal sources of industry R&D expenditures.

^dOther sources of support for nonprofit institutions unavailable by state. For 2004, total nonprofit performance is estimated at \$12.8 billion. Industry provided estimated \$1.2 billion to nonprofit sector, and nonprofit institutions provided estimated \$6.0 billion.

^eState totals differ from U.S. totals reported elsewhere for four reasons: some R&D expenditures cannot be allocated to 1 of 50 states or District of Columbia; nonfederal sources of nonprofit R&D expenditures, totaling an estimated \$7.1 billion in 2004, could not be allocated by state; state-level university R&D data not adjusted to eliminate double counting of funds passed through from one academic institution to another; and state R&D data not converted from fiscal years to calendar years.

^fOther and unknown category is reported data that could not be assigned to 1 of 50 states or District of Columbia.

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

SOURCES: National Science Foundation, Division of Science Resources Statistics, Survey of Industrial Research and Development (2004); Survey of Research and Development Expenditures at Universities and Colleges: FY 2004; and Survey of Federal Funds for Research and Development: FY 2004.

Science and Engineering Indicators 2008

Appendix table 4-24

Total R&D and gross domestic product, by state: 2004

Rank/state	R&D (current \$millions)	GDP (current \$millions)	R&D/GDP (%)	Rank in R&D/GDP	U.S. R&D (%)	Cumulative percent
1 California.....	59,607	1,515,453	3.93	8	21.0	21.0
2 Michigan.....	16,722	363,380	4.60	4	5.9	26.9
3 Massachusetts.....	15,987	309,483	5.17	3	5.6	32.6
4 Maryland.....	14,341	229,158	6.26	2	5.1	37.6
5 Texas.....	14,266	904,412	1.58	30	5.0	42.7
6 New York.....	13,113	908,308	1.44	34	4.6	47.3
7 New Jersey.....	12,460	409,156	3.05	11	4.4	51.7
8 Illinois.....	11,300	534,464	2.11	23	4.0	55.7
9 Washington.....	10,936	252,384	4.33	6	3.9	59.5
10 Pennsylvania.....	10,813	464,467	2.33	18	3.8	63.3
11 Connecticut.....	7,881	183,873	4.29	7	2.8	66.1
12 Ohio.....	7,816	424,562	1.84	27	2.8	68.9
13 Virginia.....	7,345	325,467	2.26	19	2.6	71.5
14 North Carolina.....	6,491	324,622	2.00	24	2.3	73.8
15 Minnesota.....	5,992	222,628	2.69	14	2.1	75.9
16 Colorado.....	5,497	198,407	2.77	12	1.9	77.8
17 Florida.....	5,409	607,201	0.89	41	1.9	79.7
18 Indiana.....	5,130	229,618	2.23	21	1.8	81.5
19 New Mexico.....	5,114	63,861	8.01	1	1.8	83.3
20 Wisconsin.....	3,675	208,269	1.76	29	1.3	84.6
21 Oregon.....	3,664	135,014	2.71	13	1.3	85.9
22 Georgia.....	3,655	337,622	1.08	37	1.3	87.2
23 Arizona.....	3,544	194,134	1.83	28	1.3	88.5
24 Tennessee.....	3,180	214,400	1.48	31	1.1	89.6
25 Missouri.....	3,038	204,733	1.48	31	1.1	90.7
26 Alabama.....	2,760	141,702	1.95	26	1.0	91.6
27 District of Columbia.....	2,383	77,782	3.06	10	0.8	92.5
28 Kansas.....	2,169	99,125	2.19	22	0.8	93.2
29 Rhode Island.....	1,840	42,213	4.36	5	0.6	93.9
30 New Hampshire.....	1,665	51,656	3.22	9	0.6	94.5
31 Iowa.....	1,625	111,626	1.46	33	0.6	95.1
32 Utah.....	1,602	81,059	1.98	25	0.6	95.6
33 South Carolina.....	1,599	132,348	1.21	35	0.6	96.2
34 Delaware.....	1,182	52,454	2.25	20	0.4	96.6
35 Idaho.....	1,006	42,697	2.36	17	0.4	97.0
36 Kentucky.....	1,006	131,839	0.76	45	0.4	97.3
37 Louisiana.....	972	162,646	0.60	49	0.3	97.7
38 Oklahoma.....	814	111,400	0.73	46	0.3	97.9
39 Nebraska.....	740	67,976	1.09	36	0.3	98.2
40 Mississippi.....	651	76,534	0.85	43	0.2	98.4
41 Nevada.....	623	99,342	0.63	47	0.2	98.6
42 North Dakota.....	558	22,715	2.46	16	0.2	98.8
43 Vermont.....	546	22,020	2.48	15	0.2	99.0
44 West Virginia.....	523	49,903	1.05	39	0.2	99.2
45 Arkansas.....	514	81,752	0.63	47	0.2	99.4
46 Hawaii.....	490	50,781	0.96	40	0.2	99.6
47 Maine.....	384	43,131	0.89	41	0.1	99.7
48 Montana.....	295	27,790	1.06	38	0.1	99.8
49 Alaska.....	271	34,729	0.78	44	0.1	99.9
50 South Dakota.....	149	29,519	0.50	50	0.1	100.0
51 Wyoming.....	98	23,876	0.41	51	0.0	100.0

GDP = gross domestic product

NOTE: U.S. R&D total attributable to states is \$283,439 million.

SOURCES: National Science Foundation, Division of Science Resources Statistics, Survey of Industrial Research and Development (2004); Survey of Research and Development Expenditures at Universities and Colleges: FY 2004; Survey of Federal Funds for Research and Development: FY 2004; and Bureau of Economic Analysis, <http://www.bea.gov/regional/index.htm>, accessed 25 August 2007.

Appendix table 4-25

R&D expenditures at federally funded research and development centers: FY 2005

(Thousands of dollars)

FFRDC	All expenditures	Federal	Sponsoring agency	Location
All FFRDCs.....	13,249,816	12,892,042	na	na
University-administered FFRDCs.....	7,821,054	7,660,415	na	na
Ames Laboratory.....	29,293	29,293	Department of Energy	Ames, IA
Argonne National Laboratory.....	482,051	431,591	Department of Energy	Argonne, IL
Ernest Orlando Lawrence Berkeley National Laboratory.....	482,672	425,090	Department of Energy	Berkeley, CA
Fermi National Accelerator Laboratory.....	323,153	323,153	Department of Energy	Batavia, IL
Jet Propulsion Laboratory.....	1,606,409	1,606,409	NASA	Pasadena, CA
Lawrence Livermore National Laboratory.....	1,456,368	1,435,094	Department of Energy	Livermore, CA
Lincoln Laboratory.....	627,201	622,794	DOD, Department of the Air Force	Lexington, MA
Los Alamos National Laboratory.....	2,101,211	2,086,116	Department of Energy	Los Alamos, NM
National Astronomy and Ionosphere Center.....	13,831	12,257	NSF	Arecibo, PR
National Center for Atmospheric Research.....	135,893	130,662	NSF	Boulder, CO
National Optical Astronomy Observatory.....	47,845	47,845	NSF	Tucson, AZ
National Radio Astronomy Observatory.....	52,023	51,166	NSF	Green Bank, WV
Princeton Plasma Physics Laboratory.....	81,803	81,205	Department of Energy	Princeton, NJ
Software Engineering Institute.....	62,262	59,453	DOD, Office of the Secretary of Defense	Pittsburgh, PA
Stanford Linear Accelerator Center.....	205,690	205,690	Department of Energy	Stanford, CA
Thomas Jefferson National Accelerator Facility.....	113,349	112,597	Department of Energy	Newport News, VA
Industry-administered FFRDCs.....	2,611,774	2,544,351	na	na
Idaho National Engineering and Environmental Laboratory.....	232,289	216,972	Department of Energy	Idaho Falls, ID
National Cancer Institute at Frederick.....	334,400	334,400	NIH	Frederick, MD
Sandia National Laboratory.....	1,946,435	1,894,329	Department of Energy	Albuquerque, NM
Savannah River Technology.....	98,650	98,650	Department of Energy	Aiken, SC
Nonprofit-administered FFRDC.....	2,816,988	2,687,276	na	na
Aerospace FFRDC.....	32,500	14,500	DOD, Department of the Air Force	El Segundo, CA
Arroyo Center.....	28,152	28,152	DOD, Department of the Army	Santa Monica, CA
Brookhaven National Laboratory.....	483,039	464,439	Department of Energy	Upton, NY
C3I FFRDC.....	37,213	13,900	DOD, Office of the Secretary of Defense	Bedford, MA/McLean, VA
Center for Advanced Aviation System Development.....	6,429	3,378	FAA	McLean, VA
Center for Naval Analyses.....	83,837	73,099	DOD, Department of the Navy	Alexandria, VA
Center for Nuclear Waste Regulatory Analyses.....	16,615	15,732	Nuclear Regulatory Commission	San Antonio, TX
Homeland Security Institute.....	NA	NA	Department of Homeland Security	Arlington, VA
Institute for Defense Analyses Communications and Computing.....	50,800	50,800	National Security Agency	Alexandria, VA
Institute for Defense Analysis Studies.....	118,600	118,600	DOD, Office of the Secretary of Defense	Alexandria, VA
Internal Revenue Service FFRDC.....	4,802	4,802	IRS	McLean, VA
National Defense Research Institute.....	25,747	25,747	DOD, Office of the Secretary of Defense	Santa Monica, CA
National Renewable Energy Laboratory.....	211,323	206,419	Department of Energy	Golden, CO
Oak Ridge National Laboratory.....	897,252	870,103	Department of Energy	Oak Ridge, TN
Pacific Northwest National Laboratory.....	779,522	756,448	Department of Energy	Richland, WA
Project Air Force.....	35,742	35,742	DOD, Department of the Air Force	Santa Monica, CA
Science and Technology Policy Institute.....	5,415	5,415	NSF	Washington, DC

na = not applicable; NA = not available

DOD = Department of Defense; FAA = Federal Aviation Administration; FFRDC = federally funded research and development center; IRS = Internal Revenue Service; NASA = National Aeronautics and Space Administration; NIH = National Institutes of Health; NSF = National Science Foundation

NOTE: More information about FFRDCs can be found on NSF website, <http://www.nsf.gov/statistics/ffrdc/>, accessed 18 April 2007.

SOURCE: NSF, Division of Science Resources Statistics, Academic Research and Development Expenditures: Fiscal Year 2005 (2007).

Appendix table 4-26

(Page 1 of 3)

Federal R&D budget authority, by budget function: FY 1980–2008

Year	All functions	All defense	All nondefense	Health	Space research/ technology	Energy	General science	Natural resources/ environment	Transportation
Current \$millions									
1980.....	29,739	14,946	14,793	3,694	2,738	3,603	1,233	999	887
1981.....	33,735	18,413	15,322	3,871	3,111	3,501	1,340	1,061	869
1982.....	36,115	22,070	14,045	3,869	2,584	3,012	1,359	965	791
1983.....	38,768	24,936	13,832	4,298	2,134	2,578	1,502	952	876
1984.....	44,214	29,287	14,927	4,779	2,300	2,581	1,676	963	1,040
1985.....	49,887	33,698	16,189	5,418	2,725	2,389	1,862	1,059	1,030
1986.....	53,249	36,926	16,323	5,565	2,894	2,286	1,873	1,062	917
1987.....	57,069	39,152	17,917	6,556	3,398	2,053	2,042	1,133	908
1988.....	59,106	40,099	19,007	7,076	3,683	2,126	2,160	1,160	896
1989.....	62,115	40,642	21,473	7,773	4,555	2,419	2,373	1,255	1,064
1990.....	63,781	39,925	23,856	8,308	5,765	2,726	2,410	1,386	1,045
1991.....	65,898	39,328	26,570	9,226	6,511	2,953	2,635	1,582	1,231
1992.....	68,398	40,083	28,315	10,055	6,744	3,099	2,659	1,688	1,523
1993.....	69,884	41,249	28,635	10,280	6,988	2,677	2,691	1,802	1,703
1994.....	68,331	37,764	30,567	10,993	7,414	2,873	2,712	2,062	1,888
1995.....	68,791	37,204	31,587	11,407	7,916	2,844	2,794	1,988	1,833
1996.....	69,049	37,801	31,248	11,867	7,844	2,521	2,846	1,802	1,795
1997.....	71,653	39,591	32,062	12,670	7,844	2,372	2,944	1,886	1,785
1998.....	73,569	39,823	33,746	13,576	8,198	948	4,360	1,855	1,833
1999.....	77,637	41,306	36,331	15,553	8,245	1,131	4,690	1,842	1,725
2000.....	78,664	42,580	36,084	17,869	5,363	996	4,977	1,999	1,636
2001.....	86,756	45,713	41,043	20,758	6,126	1,314	5,468	2,096	1,640
2002.....	97,624	53,016	44,608	23,560	6,270	1,327	5,753	2,160	1,838
2003.....	112,544	63,048	49,496	26,517	7,355	1,403	6,129	2,151	1,869
2004.....	121,867	69,593	52,274	28,251	7,612	1,343	6,466	2,168	1,863
2005.....	126,601	74,047	52,554	28,824	7,300	1,296	6,570	2,168	1,847
2006.....	131,624	78,037	53,587	28,797	8,204	1,195	6,691	2,120	1,711
2007.....	137,026	81,667	55,359	29,481	8,933	1,581	7,185	1,932	1,490
2008.....	138,332	82,383	55,949	29,242	9,506	1,468	7,752	1,944	1,368
FY 2000 constant \$millions									
1980.....	56,024	28,156	27,868	6,959	5,158	6,788	2,323	1,882	1,671
1981.....	57,884	31,594	26,290	6,642	5,338	6,007	2,299	1,820	1,491
1982.....	57,998	35,443	22,555	6,213	4,150	4,837	2,182	1,550	1,270
1983.....	59,626	38,352	21,274	6,610	3,282	3,965	2,310	1,464	1,347
1984.....	65,582	43,441	22,141	7,089	3,412	3,828	2,486	1,428	1,543
1985.....	71,670	48,412	23,258	7,784	3,915	3,432	2,675	1,521	1,480
1986.....	74,760	51,843	22,917	7,813	4,063	3,209	2,630	1,491	1,287
1987.....	78,085	53,570	24,515	8,970	4,649	2,809	2,794	1,550	1,242
1988.....	78,405	53,192	25,213	9,386	4,886	2,820	2,865	1,539	1,189
1989.....	79,315	51,896	27,419	9,925	5,816	3,089	3,030	1,603	1,359
1990.....	78,526	49,155	29,371	10,229	7,098	3,356	2,967	1,706	1,287
1991.....	78,197	46,668	31,529	10,948	7,726	3,504	3,127	1,877	1,461
1992.....	79,174	46,398	32,776	11,639	7,807	3,587	3,078	1,954	1,763
1993.....	79,129	46,706	32,423	11,640	7,912	3,031	3,047	2,040	1,928
1994.....	75,727	41,852	33,876	12,183	8,217	3,184	3,006	2,285	2,092
1995.....	74,636	40,365	34,271	12,376	8,589	3,086	3,031	2,157	1,989
1996.....	73,540	40,260	33,280	12,639	8,354	2,685	3,031	1,919	1,912
1997.....	75,002	41,441	33,560	13,262	8,211	2,483	3,082	1,974	1,868
1998.....	76,047	41,164	34,883	14,033	8,474	980	4,507	1,917	1,895
1999.....	79,217	42,147	37,070	15,870	8,413	1,154	4,785	1,879	1,760
2000.....	78,664	42,580	36,084	17,869	5,363	996	4,977	1,999	1,636
2001.....	85,265	44,928	40,338	20,401	6,021	1,291	5,374	2,060	1,612
2002.....	94,096	51,100	42,996	22,709	6,043	1,279	5,545	2,082	1,772
2003.....	106,293	59,546	46,747	25,044	6,947	1,325	5,789	2,032	1,765
2004.....	112,313	64,137	48,176	26,036	7,015	1,238	5,959	1,998	1,717
2005.....	113,158	66,185	46,974	25,763	6,525	1,158	5,872	1,938	1,651
2006.....	114,131	67,666	46,465	24,970	7,114	1,036	5,802	1,838	1,484
2007.....	115,878	69,063	46,815	24,931	7,554	1,337	6,076	1,634	1,260
2008.....	114,221	68,024	46,197	24,145	7,849	1,212	6,401	1,605	1,130

Appendix table 4-26

(Page 2 of 3)

Federal R&D budget authority, by budget function: FY 1980–2008

Year	Agriculture	Education, training, employment, and social services	International affairs	Veterans benefits/ services	Commerce/ housing/ credit	Community/ regional development	Administration of justice	Income security	General government
1980.....	585	468	125	126	101	119	45	47	22
1981.....	659	298	160	143	106	104	34	43	22
1982.....	693	228	165	139	104	63	31	32	10
1983.....	745	189	177	157	107	44	37	32	6
1984.....	762	200	192	218	110	46	24	26	8
1985.....	836	220	210	193	114	50	47	21	17
1986.....	815	248	211	183	111	88	41	14	14
1987.....	822	267	223	215	110	99	49	25	17
1988.....	882	285	224	195	122	108	51	23	17
1989.....	907	347	279	212	128	74	45	27	15
1990.....	950	374	375	216	140	67	44	33	17
1991.....	1,052	433	378	219	178	88	51	30	4
1992.....	1,155	365	371	245	192	127	51	37	4
1993.....	1,152	348	382	250	220	57	49	36	*
1994.....	1,193	373	254	265	380	68	46	45	0
1995.....	1,194	369	287	257	525	70	59	43	1
1996.....	1,176	331	252	259	432	50	56	16	2
1997.....	1,203	373	190	267	409	48	59	9	2
1998.....	1,249	444	163	587	398	42	72	18	2
1999.....	1,288	403	190	644	432	59	88	38	3
2000.....	1,426	418	200	645	406	46	73	25	6
2001.....	1,657	411	252	719	429	54	88	30	3
2002.....	1,606	411	279	756	467	50	91	37	3
2003.....	1,708	430	269	817	463	48	299	38	0
2004.....	1,750	459	264	866	454	47	684	47	0
2005.....	1,820	470	255	742	423	45	758	35	0
2006.....	1,869	495	255	769	390	55	1,008	27	0
2007.....	1,824	504	255	851	433	50	813	27	0
2008.....	1,629	548	255	822	425	65	897	27	0
	FY 2000 constant \$millions								
1980.....	1,102	882	235	237	190	224	85	89	41
1981.....	1,131	511	275	245	182	178	58	74	38
1982.....	1,113	366	265	223	167	101	50	51	16
1983.....	1,146	291	272	241	165	68	57	49	9
1984.....	1,130	297	285	323	163	68	36	39	12
1985.....	1,201	316	302	277	164	72	68	30	24
1986.....	1,144	348	296	257	156	124	58	20	20
1987.....	1,125	365	305	294	151	135	67	34	23
1988.....	1,170	378	297	259	162	143	68	31	23
1989.....	1,158	443	356	271	163	94	57	34	19
1990.....	1,170	460	462	266	172	82	54	41	21
1991.....	1,248	514	449	260	211	104	61	36	5
1992.....	1,337	423	429	284	222	147	59	43	5
1993.....	1,304	394	433	283	249	65	55	41	*
1994.....	1,322	413	281	294	421	75	51	50	0
1995.....	1,295	400	311	279	570	76	64	47	1
1996.....	1,252	353	268	276	460	53	60	17	2
1997.....	1,259	390	199	279	428	50	62	9	2
1998.....	1,291	459	168	607	411	43	74	19	2
1999.....	1,314	411	194	657	441	60	90	39	3
2000.....	1,426	418	200	645	406	46	73	25	6
2001.....	1,629	404	248	707	422	53	86	29	3
2002.....	1,548	396	269	729	450	48	88	36	3
2003.....	1,613	406	254	772	437	45	282	36	0

Appendix table 4-26

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Federal R&D budget authority, by budget function: FY 1980–2008

Year	Agriculture	Education, training, employment, and social services	International affairs	Veterans benefits/ services	Commerce/ housing/ credit	Community/ regional development	Administration of justice	Income security	General government
2004.....	1,613	423	243	798	418	43	630	43	0
2005.....	1,627	420	228	663	378	40	678	31	0
2006.....	1,621	429	221	667	338	48	874	23	0
2007.....	1,542	426	216	720	366	42	688	23	0
2008.....	1,345	452	211	679	351	54	741	22	0

* = ≤\$500,000

NOTES: Data for 1980–2006 actual budget authority, data for 2007 preliminary estimates, and data for 2008 proposed based on FY 2008 budget. See appendix table 4-1 for fiscal year gross domestic product implicit price deflators used to convert current dollars to constant 2000 dollars. In FY 2004 Department of Homeland Security changed its R&D portfolio to reclassify funding in general science and basic research and in agriculture as administration of justice. In FY 2000 National Aeronautics and Space Administration transferred funding for space station program from R&D to R&D plant; this change reflected in budget authority for space research and technology. In FY 2000 National Institutes of Health in Department of Health and Human Services classified all of its previous development activities as basic research or applied research, which resulted in an increase in health basic research. In FY 1998 many Department of Energy programs were reclassified from energy to general science and basic research. In FY 1998 Department of Veterans Affairs began reporting medical care support funds as part of its total research budgetary resources; this change reflected in budget authority for veteran benefits and services.

SOURCE: National Science Foundation, Division of Science Resources Statistics, Federal R&D Funding by Budget Function: Fiscal Years 2006–08 (2007).

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Appendix table 4-27

Federal basic research budget authority, by budget function: FY 1998–2008

Budget function	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Current \$millions											
All functions.....	15,523	17,433	19,470	21,376	23,848	25,323	26,529	27,678	27,336	28,311	28,230
Health.....	7,356	8,634	10,099	11,642	12,957	14,162	14,850	15,826	15,532	15,944	15,554
General science.....	4,121	4,464	4,722	5,187	5,561	5,907	6,198	6,238	6,406	6,879	7,371
Space research/technology.....	1,610	1,667	1,616	1,695	1,912	2,206	2,473	2,486	2,299	2,259	2,226
Energy.....	34	36	36	40	45	40	32	31	8	33	9
National defense.....	1,067	1,110	1,184	1,303	1,404	1,409	1,380	1,508	1,490	1,601	1,458
Agriculture.....	571	602	651	749	762	824	780	789	805	784	740
Transportation.....	411	358	542	17	17	23	20	65	0	0	0
Natural resources/environment.....	145	142	146	215	471	185	201	195	195	168	162
Education, training, employment/social services.....	133	99	107	112	115	125	125	130	131	137	145
Commerce/housing credit.....	35	41	39	50	56	53	46	53	66	78	102
Veterans benefits/services.....	23	263	266	289	465	327	347	297	318	328	330
Administration of justice.....	16	18	20	27	30	42	58	42	68	81	114
International affairs.....	1	0	42	50	53	18	18	18	18	18	18
Community/regional development.....	0	0	0	0	0	1	0	0	0	0	0
General government.....	0	0	0	0	0	0	0	0	0	0	0
Income security.....	0	0	0	0	0	0	0	0	0	0	0
FY 2000 constant \$millions											
All functions.....	16,046	17,788	19,470	21,009	22,986	23,917	24,449	24,739	23,703	23,942	23,310
Health.....	7,604	8,810	10,099	11,442	12,489	13,375	13,686	14,146	13,468	13,483	12,843
General science.....	4,260	4,555	4,722	5,098	5,360	5,579	5,712	5,576	5,555	5,817	6,086
Space research/technology.....	1,664	1,701	1,616	1,666	1,843	2,083	2,279	2,222	1,993	1,910	1,838
Energy.....	35	37	36	39	43	38	29	28	7	28	7
National defense.....	1,103	1,133	1,184	1,281	1,353	1,331	1,272	1,348	1,292	1,354	1,204
Agriculture.....	590	614	651	736	734	778	719	705	698	663	611
Transportation.....	425	365	542	17	16	22	18	58	0	0	0
Natural resources/environment.....	150	145	146	211	454	175	185	174	169	142	134
Education, training, employment/social services.....	137	101	107	110	111	118	115	116	114	116	120
Commerce/housing credit.....	36	42	39	49	54	50	42	47	57	66	84
Veterans benefits/services.....	24	268	266	284	448	309	320	265	276	277	272
Administration of justice.....	17	18	20	27	29	40	53	38	59	68	94
International affairs.....	1	0	42	49	51	17	17	16	16	15	15
Community/regional development.....	0	0	0	0	0	1	0	0	0	0	0
General government.....	0	0	0	0	0	0	0	0	0	0	0
Income security.....	0	0	0	0	0	0	0	0	0	0	0

NOTES: Data for 1980–2006 actual budget authority, data for 2007 preliminary estimates, and data for 2008 proposed based on FY 2008 budget. See appendix table 4-1 for fiscal year gross domestic product implicit price deflators used to convert current dollars to constant 2000 dollars. In FY 2004 Department of Homeland Security changed its R&D portfolio to reclassify funding in general science and basic research and in agriculture as administration of justice. In FY 2000 National Aeronautics and Space Administration transferred funding for space station program from R&D to R&D plant; this change reflected budget authority for space research and technology. In FY 2000 National Institutes of Health in Department of Health and Human Services classified all of its previous development activities as basic research or applied research, which resulted in an increase in health basic research. In FY 1998 many Department of Energy programs were reclassified from energy to general science and basic research, and Department of Veterans Affairs began reporting medical care support funds as part of its total research budgetary resources; this change reflected in budget authority for veteran benefits and services.

SOURCE: National Science Foundation, Division of Science Resources Statistics, Federal R&D Funding by Budget Function: Fiscal Years 2006–08 (2007).

Appendix table 4-28

Trends in R&D and federal outlays: Selected fiscal years, 1970–2008

Composition of federal outlays	1970	1980	1990	2000	2002	2004	2006	2008 ^a
Current \$billions								
Federal outlays	195.6	590.9	1,253.1	1,789.2	2,011.2	2,293.0	2,655.4	2,901.9
Mandatory programs ^b	61.0	262.1	568.2	951.4	1,105.9	1,237.3	1,412.1	1,526.8
Net interest	14.4	52.5	184.3	222.9	170.9	160.2	226.6	261.3
All discretionary	120.3	276.3	500.6	614.8	734.3	895.5	1,016.7	1,113.8
Defense	81.9	134.6	300.1	295.0	349.0	454.1	520.0	602.9
R&D	8.0	14.6	41.1	41.1	48.2	65.3	73.0	72.9
Nondefense	38.3	141.7	200.4	319.8	385.3	441.4	496.7	510.9
R&D	7.1	15.6	22.7	32.9	39.7	48.0	49.8	54.1
All federal R&D outlays	15.2	30.2	63.8	73.9	87.9	113.4	122.8	127.0
Percent distribution								
Federal outlays	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mandatory programs ^b	31.2	44.4	45.3	53.2	55.0	54.0	53.2	52.6
Net interest	7.4	8.9	14.7	12.5	8.5	7.0	8.5	9.0
All discretionary	61.5	46.8	39.9	34.4	36.5	39.1	38.3	38.4
Defense	41.9	22.8	23.9	16.5	17.4	19.8	19.6	20.8
R&D	4.1	2.5	3.3	2.3	2.4	2.8	2.7	2.5
Nondefense	19.6	24.0	16.0	17.9	19.2	19.2	18.7	17.6
R&D	3.6	2.6	1.8	1.8	2.0	2.1	1.9	1.9
All federal R&D outlays	7.7	5.1	5.1	4.1	4.4	4.9	4.6	4.4
Percent								
Federal R&D outlays as proportion of corresponding discretionary outlays								
All federal R&D/total discretionary outlays	12.6	10.9	12.7	12.0	12.0	12.7	12.1	11.4
Defense	9.8	10.9	13.7	13.9	13.8	14.4	14.0	12.1
Nondefense	18.6	11.0	11.3	10.3	10.3	10.9	10.0	10.6

^aEstimate.

^bIncludes Social Security, Medicare, Medicaid, and other programs.

SOURCE: Office of Management and Budget, Historical Tables, Budget of the United States Government: Fiscal Year 2008 (2007).

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Appendix table 4-29

Discrepancy between federal R&D support, as reported by performers and federal agencies: 1980–2006

(Billions of dollars)

Year	All performers			Industrial performers ^a		
	Performer reported	Agency reported	Difference	Performer reported	Agency reported	Difference
1980.....	30.0	29.8	0.2	12.8	13.0	-0.2
1981.....	33.7	33.1	0.6	15.0	14.9	0.1
1982.....	37.1	36.4	0.7	17.1	17.2	-0.1
1983.....	41.5	38.7	2.8	19.1	17.0	2.1
1984.....	46.5	42.2	4.3	21.7	18.6	3.1
1985.....	52.6	48.4	4.2	25.3	21.7	3.6
1986.....	54.6	51.4	3.2	26.0	24.2	1.8
1987.....	58.6	55.3	3.3	28.8	26.8	2.0
1988.....	60.1	56.8	3.3	28.2	26.7	1.5
1989.....	60.5	61.4	-0.9	26.4	28.5	-2.1
1990.....	61.6	63.6	-2.0	25.8	29.4	-3.6
1991.....	60.8	61.3	-0.5	24.1	26.4	-2.3
1992.....	60.9	65.6	-4.7	22.4	29.7	-7.3
1993.....	60.5	67.3	-6.8	20.8	30.2	-9.4
1994.....	60.8	67.2	-6.4	20.3	30.5	-10.2
1995.....	63.0	68.2	-5.2	21.2	30.2	-9.0
1996.....	63.4	67.7	-4.3	21.4	30.4	-9.0
1997.....	64.6	69.8	-5.2	21.8	31.4	-9.6
1998.....	66.4	72.1	-5.7	22.1	32.0	-9.9
1999.....	67.0	75.3	-8.3	20.5	31.9	-11.4
2000.....	66.4	72.9	-6.5	17.1	27.7	-10.6
2001.....	72.8	79.9	-7.1	16.9	27.0	-10.1
2002.....	77.7	85.9	-8.2	16.4	29.5	-13.1
2003.....	83.6	93.7	-10.1	17.8	33.9	-16.1
2004.....	88.9	101.4	-12.5	20.3	39.2	-18.9
2005.....	93.8	109.3	-15.5	21.9	44.1	-22.2
2006.....	94.2	113.3	-19.1	22.6	46.1	-23.5

^aExcludes industry-administered federally funded research and development centers.

NOTE: Performer-reported data are expenditures; agency-reported data are obligations.

SOURCES: National Science Foundation, Division of Science Resources Statistics, National Patterns of R&D Resources (annual series); and Federal Funds for Research and Development: Fiscal Years 2005, 2006, and 2007 (forthcoming).

Appendix table 4-30

(Page 1 of 2)

Estimated federal obligations for R&D and R&D plant, by selected agency, performer, and character of work: FY 2007

(Millions of current dollars)

Agency	All federal obligations	Federal intramural	Industrial firms	FFRDCs administered by industry	U&C	FFRDCs administered by U&C	Other nonprofits	FFRDCs administered by nonprofits	State and local government	Foreign
Total R&D and R&D plant										
All agencies.....	116,416.5	25,439.8	48,042.9	1,498.8	25,305.2	6,731.3	5,889.8	2,152.0	700.3	656.7
Department of Agriculture.....	1,995.5	1,380.4	13.8	0.0	584.3	0.0	11.7	0.0	2.3	3.0
Department of Commerce.....	1,022.8	790.9	16.4	0.1	194.6	3.9	14.1	0.1	2.3	0.4
Department of Defense.....	56,671.9	13,205.9	39,511.2	210.3	1,977.1	470.5	406.1	659.3	6.0	225.5
Department of Energy.....	8,741.4	566.0	1,209.6	868.4	811.1	3,838.4	73.9	1,371.5	0.3	2.3
Department of Health and Human Services.....	29,018.6	5,687.5	1,836.4	354.1	16,262.9	74.1	4,313.5	25.8	178.7	285.6
Department of Homeland Security.....	1,107.0	310.2	353.5	50.3	32.6	233.9	56.1	70.4	0.0	0.0
Department of the Interior.....	574.6	486.4	18.3	0.0	57.5	0.0	2.8	0.0	8.9	0.6
Department of Transportation.....	521.3	162.4	264.5	1.0	38.7	15.8	37.0	0.0	1.9	0.0
Environmental Protection Agency.....	557.3	433.6	21.2	0.0	72.5	0.0	25.2	0.0	4.4	0.4
National Aeronautics and Space Administration.....	9,790.2	1,506.8	4,428.8	0.0	1,251.1	1,782.4	245.3	0.0	457.8	118.0
National Science Foundation.....	4,522.5	45.4	218.5	0.0	3,541.5	300.0	385.5	6.2	6.9	18.5
All other agencies.....	1,893.4	864.3	150.7	14.6	481.3	12.3	318.6	18.7	30.8	2.5
R&D										
All agencies.....	112,829.7	24,741.5	46,502.1	1,477.8	24,968.5	6,136.3	5,751.6	1,949.2	663.8	639.1
Department of Agriculture.....	1,966.1	1,351.0	13.8	0.0	584.3	0.0	11.7	0.0	2.3	3.0
Department of Commerce.....	940.3	722.9	16.4	0.1	180.1	3.9	14.1	0.1	2.3	0.4
Department of Defense.....	56,348.0	13,015.2	39,378.0	210.3	1,977.1	470.5	406.1	659.3	6.0	225.5
Department of Energy.....	7,956.6	540.2	1,175.3	851.0	803.7	3,340.1	69.9	1,173.8	0.3	2.3
Department of Health and Human Services.....	28,901.8	5,622.9	1,836.4	354.1	16,212.6	74.1	4,311.5	25.8	178.7	285.6
Department of Homeland Security.....	1,027.9	288.2	328.7	46.7	29.9	217.0	52.1	65.3	0.0	0.0
Department of the Interior.....	570.0	484.4	15.7	0.0	57.5	0.0	2.8	0.0	8.9	0.6
Department of Transportation.....	502.2	162.4	245.4	1.0	38.7	15.8	37.0	0.0	1.9	0.0
Environmental Protection Agency.....	557.3	433.6	21.2	0.0	72.5	0.0	25.2	0.0	4.4	0.4
National Aeronautics and Space Administration.....	8,152.8	1,272.2	3,173.5	0.0	1,210.3	1,781.7	190.2	0.0	422.0	102.9
National Science Foundation.....	4,049.4	20.3	147.0	0.0	3,320.5	220.9	312.4	6.2	6.2	15.9
All other agencies.....	1,857.3	828.2	150.7	14.6	481.3	12.3	318.6	18.7	30.8	2.5
Basic research										
All agencies.....	28,264.4	4,846.4	2,211.1	269.1	14,272.5	2,364.3	2,927.9	897.7	253.6	221.8
Department of Agriculture.....	850.6	589.2	0.2	0.0	253.2	0.0	5.0	0.0	1.4	1.6
Department of Commerce.....	92.8	79.4	2.3	0.1	10.7	0.1	0.1	0.1	0.0	0.0
Department of Defense.....	1,349.5	365.8	149.6	4.4	691.3	7.0	114.6	3.1	0.0	13.6
Department of Energy.....	3,259.6	47.5	147.1	57.1	626.4	1,483.2	19.0	878.0	0.0	1.3
Department of Health and Human Services.....	16,026.1	3,024.6	975.7	204.9	9,122.7	42.9	2,413.6	12.2	66.2	163.3
Department of Homeland Security.....	47.4	13.0	15.1	2.2	1.4	10.2	2.4	3.1	0.0	0.0
Department of the Interior.....	37.7	35.4	0.1	0.0	1.0	0.0	0.0	0.0	1.3	0.0
Department of Transportation.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Environmental Protection Agency.....	94.5	73.5	3.6	0.0	12.3	0.0	4.3	0.0	0.8	0.1
National Aeronautics and Space Administration.....	2,469.2	281.5	859.3	0.0	456.8	600.0	64.2	0.0	177.8	29.6
National Science Foundation.....	3,670.6	18.3	56.1	0.0	3,068.5	220.9	287.0	1.3	6.2	12.3
All other agencies.....	366.4	318.2	2.0	0.4	28.2	0.0	17.7	0.0	0.0	0.0
Applied research										
All agencies.....	26,824.8	7,828.1	4,575.3	708.5	9,088.9	1,701.5	2,413.3	256.4	102.9	150.0
Department of Agriculture.....	940.3	596.7	13.5	0.0	321.8	0.0	6.2	0.0	0.9	1.2
Department of Commerce.....	757.0	575.2	11.5	0.0	151.8	2.2	14.0	0.0	2.2	0.2
Department of Defense.....	5,100.4	2,074.8	2,124.5	15.3	590.3	73.0	137.7	65.3	0.6	18.9
Department of Energy.....	2,779.0	264.0	219.9	514.9	134.6	1,478.9	27.4	139.3	0.0	0.0
Department of Health and Human Services.....	12,775.2	2,572.8	860.7	149.2	7,077.9	31.2	1,886.6	8.9	65.4	122.3
Department of Homeland Security.....	314.7	89.8	99.9	14.3	9.1	66.2	15.6	19.9	0.0	0.0
Department of the Interior.....	476.5	401.3	12.9	0.0	53.1	0.0	1.6	0.0	7.1	0.6
Department of Transportation.....	329.1	128.8	118.3	0.8	38.3	15.8	25.5	0.0	1.5	0.0

Appendix table 4-30

(Page 2 of 2)

Estimated federal obligations for R&D and R&D plant, by selected agency, performer, and character of work: FY 2007

(Millions of current dollars)

Agency	All federal obligations	Federal intramural	Industrial firms	FFRDCs administered by industry	U&C	FFRDCs administered by U&C	Other nonprofits	FFRDCs administered by nonprofits	State and local government	Foreign
Environmental Protection Agency.....	358.9	279.2	13.6	0.0	46.7	0.0	16.2	0.0	2.9	0.3
National Aeronautics and Space Administration	1,642.1	477.4	895.6	0.0	183.7	21.8	49.2	0.0	13.8	0.5
National Science Foundation	378.8	2.0	90.9	0.0	252.0	0.0	25.4	4.9	0.0	3.6
All other agencies.....	972.8	366.1	114.0	14.0	229.6	12.4	207.9	18.1	8.5	2.4
Development										
All agencies.....	57,740.5	12,067.0	39,715.7	500.1	1,607.1	2,070.5	410.4	795.1	307.3	267.3
Department of Agriculture.....	175.2	165.1	0.0	0.0	9.3	0.0	0.5	0.0	0.0	0.2
Department of Commerce	90.6	68.4	2.6	0.0	17.6	1.6	0.1	0.0	0.0	0.2
Department of Defense.....	49,898.0	10,574.6	37,103.9	190.6	695.5	390.4	153.8	590.9	5.3	193.0
Department of Energy.....	1,918.0	228.6	808.3	279.0	42.8	377.9	23.4	156.6	0.3	1.0
Department of Health and Human Services	100.5	25.5	0.0	0.0	12.0	0.0	11.2	4.7	47.1	0.0
Department of Homeland Security	665.8	185.4	213.7	30.3	19.3	140.6	34.1	42.3	0.0	0.0
Department of the Interior	55.8	47.8	2.8	0.0	3.4	0.0	1.2	0.0	0.6	0.0
Department of Transportation	173.1	33.6	127.1	0.2	0.4	0.0	11.5	0.0	0.4	0.0
Environmental Protection Agency.....	103.9	80.8	3.9	0.0	13.5	0.0	4.7	0.0	0.8	0.1
National Aeronautics and Space Administration	4,041.5	513.3	1,418.6	0.0	569.8	1,159.9	76.8	0.0	230.4	72.7
National Science Foundation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
All other agencies.....	518.1	143.9	34.8	0.0	223.5	0.0	93.1	0.6	22.4	0.0
R&D plant										
All agencies.....	3,586.8	698.3	1,540.8	21.0	336.7	595.0	138.2	202.8	36.5	17.6
Department of Agriculture.....	29.4	29.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Department of Commerce	82.5	68.0	0.0	0.0	14.5	0.0	0.0	0.0	0.0	0.0
Department of Defense.....	323.9	190.7	133.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Department of Energy.....	784.8	25.8	34.3	17.4	7.4	498.3	4.0	197.7	0.0	0.0
Department of Health and Human Services	116.8	64.6	0.0	0.0	50.3	0.0	2.0	0.0	0.0	0.0
Department of Homeland Security	79.1	22.0	24.8	3.6	2.7	16.9	4.0	5.1	0.0	0.0
Department of the Interior	4.6	2.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Department of Transportation	19.1	0.0	19.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Environmental Protection Agency.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
National Aeronautics and Space Administration	1,637.4	234.6	1,255.3	0.0	40.8	0.7	55.1	0.0	35.8	15.1
National Science Foundation	473.1	25.1	71.5	0.0	221.0	79.1	73.1	0.0	0.7	2.6
All other agencies.....	36.1	36.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

FFRDC = federally funded research and development center; U&C = universities and colleges

NOTE: Detail may not add to total because of rounding.

SOURCE: National Science Foundation, Division of Science Resources Statistics, Federal Funds for Research and Development: Fiscal Years 2005, 2006, and 2007 (forthcoming).

Appendix table 4-31

Estimated federal obligations for research, by agency and S&E field: FY 2007

(Thousands of current dollars)

Agency	All federal obligations	Environmental sciences	Life sciences	Mathematics and computer sciences	Physical sciences	Psychology	Social sciences	Engineering	Other sciences nec
All agencies.....	55,089,189	3,635,733	27,810,551	3,181,945	5,647,627	1,911,694	1,215,330	9,487,433	2,198,876
Agency for International Development.....	215,000	3,772	138,403	0	0	0	54,154	0	18,671
Appalachian Regional Commission.....	650	0	0	0	0	0	650	0	0
Broadcasting Board of Governors.....	213	0	0	0	0	0	0	213	0
Department of Agriculture.....	1,790,912	14,752	1,431,443	18,230	93,097	482	152,132	70,580	10,196
Department of Commerce.....	849,766	367,504	71,678	71,224	157,224	376	9,910	168,255	3,595
Department of Defense.....	6,449,923	339,647	546,789	1,017,846	521,041	61,205	17,192	3,647,220	298,983
Department of Education.....	251,888	0	19,959	0	0	4,533	212,661	14,735	0
Department of Energy.....	6,038,669	340,874	294,192	926,519	2,416,646	0	0	2,047,146	13,292
Department of Health and Human Services.....	28,801,264	448,630	23,618,852	185,931	415,433	1,755,446	335,634	921,794	1,119,544
Department of Homeland Security.....	362,142	778	118,399	14,676	70,631	7,310	19,429	79,058	51,861
Department of Housing and Urban Development.....	14,217	188	0	142	0	0	9,900	2,293	1,694
Department of Justice.....	52,860	0	0	0	0	0	43,860	0	9,000
Department of Labor.....	37,880	0	0	0	0	0	37,880	0	0
Department of State.....	4,100	0	0	0	0	0	4,100	0	0
Department of the Interior.....	514,156	308,387	176,603	10,937	1,866	0	5,913	10,157	293
Department of the Treasury.....	66,897	0	0	0	6,059	0	0	0	60,838
Department of Transportation.....	329,105	44,283	12,444	10,399	125	17,747	7,345	180,344	56,418
Department of Veterans Affairs.....	391,880	0	329,483	0	0	44,904	0	17,493	0
Environmental Protection Agency.....	453,400	161,913	186,540	16,584	13,186	0	3,994	62,189	8,994
Federal Communications Commission.....	6,853	0	0	375	1,350	0	2,802	2,326	0
Federal Trade Commission.....	1,880	0	0	0	0	0	1,880	0	0
Library of Congress.....	547	0	0	0	328	0	0	0	219
National Aeronautics and Space Administration.....	4,111,274	954,192	233,372	69,579	1,131,763	15,227	760	1,495,915	210,466
National Archives and Records Administration.....	120	0	0	0	120	0	0	0	0
National Science Foundation.....	4,049,417	645,694	582,813	839,503	766,437	4,464	183,286	693,539	333,681
Nuclear Regulatory Commission.....	74,176	0	0	0	0	0	0	74,176	0
Smithsonian Institution.....	130,000	5,119	49,581	0	52,321	0	21,848	0	1,131
Social Security Administration.....	90,000	0	0	0	0	0	90,000	0	0

nec = not elsewhere classified

SOURCE: National Science Foundation, Division of Science Resources Statistics, Federal Funds for Research and Development: Fiscal Years 2005, 2006, and 2007 (forthcoming).

Science and Engineering Indicators 2008

Federal obligations for total research, by detailed S&E field: FY 1986–2007

(Millions of constant 2000 dollars)

Field	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
All fields.....	23,168.7	24,547.2	24,739.8	26,515.7	26,621.0	28,441.7	28,349.1	30,447.7	30,378.3	30,850.2	30,097.8	30,737.7
Engineering	5,249.3	5,344.8	5,248.3	5,672.3	5,203.7	5,867.3	5,761.1	6,226.9	6,072.5	6,193.4	6,050.4	5,956.2
Aeronautical	1,088.9	1,108.8	1,063.6	1,260.1	1,141.4	1,205.9	1,012.4	1,350.8	1,355.0	1,354.4	1,330.7	1,415.9
Astronautical	739.8	854.6	763.3	865.0	715.1	775.0	729.7	559.3	553.1	592.9	560.8	624.2
Chemical	345.1	295.3	342.4	181.6	297.8	361.1	344.4	278.0	264.0	267.0	229.1	246.0
Civil	284.9	279.7	285.1	293.4	391.1	361.9	382.2	285.3	308.0	368.2	319.7	288.5
Electrical	946.8	1,075.9	969.8	1,076.6	788.0	866.1	878.6	998.1	822.1	820.6	713.3	651.3
Mechanical.....	332.0	319.5	319.4	328.7	330.3	398.1	390.3	528.7	419.0	447.5	313.1	266.5
Metallurgy and materials.....	624.8	495.3	605.8	665.3	682.7	843.3	841.8	787.7	943.6	884.6	1,053.3	900.9
Engineering nec	886.9	915.8	899.1	1,001.7	857.3	1,055.9	1,181.6	1,439.0	1,407.7	1,458.2	1,530.5	1,563.0
Environmental sciences.....	2,080.3	2,068.3	2,131.7	2,264.2	2,676.7	2,551.0	2,555.4	2,953.6	3,145.4	3,096.9	3,216.1	3,188.0
Atmospheric sciences.....	731.9	756.5	779.7	750.8	952.2	952.5	888.2	1,114.3	1,213.5	1,232.1	1,156.3	1,218.7
Geological sciences.....	623.2	604.4	585.8	693.1	813.9	864.7	851.6	903.4	928.7	920.4	835.3	724.1
Oceanography	603.3	584.8	610.7	628.1	640.3	473.0	531.2	529.2	550.6	441.9	611.7	625.6
Environmental sciences nec.....	121.9	122.5	155.3	192.2	270.2	260.8	284.5	406.7	452.7	502.7	612.8	619.5
Life sciences	9,075.7	10,044.9	10,246.7	10,847.5	10,871.0	11,417.8	11,471.9	12,197.1	12,505.8	12,814.5	12,849.0	13,253.0
Biological and agricultural	5,421.2	5,963.5	6,066.7	6,410.1	6,375.5	6,642.7	6,521.2	6,860.9	6,763.6	6,946.5	7,061.1	6,849.8
Agricultural sciences.....	847.7	775.7	783.6	854.3	851.2	807.3	795.8	807.2	805.9	727.3	656.1	671.3
Biological sciences (excluding environmental).....	4,202.7	4,791.6	4,883.9	5,086.2	5,102.7	5,289.8	5,133.9	5,423.5	5,259.5	5,343.9	5,655.3	5,588.8
Environmental biology	370.8	396.2	399.3	469.6	421.4	545.5	591.5	630.1	698.1	875.5	749.8	609.7
Medical sciences.....	3,313.9	3,646.1	3,901.3	4,114.8	4,164.3	4,106.1	4,525.9	4,987.0	5,388.4	5,394.6	5,296.9	5,791.3
Life sciences nec.....	340.6	435.4	278.7	322.5	331.3	669.0	424.8	349.1	353.9	473.4	491.1	611.9
Mathematics and computer sciences.....	864.0	876.5	852.8	939.0	1,035.1	1,072.4	1,343.1	1,387.5	1,442.5	1,713.3	1,673.8	1,749.9
Computer sciences.....	424.6	407.5	388.3	465.6	692.0	694.1	893.4	935.4	920.1	1,100.0	1,192.6	1,323.8
Mathematics	259.0	279.8	289.0	301.5	297.1	270.1	368.9	329.3	379.4	280.6	271.1	315.7
Mathematics and computer sciences nec.....	180.4	189.2	175.5	172.1	45.9	108.1	80.9	122.9	143.1	332.6	210.1	110.4
Physical sciences	4,308.9	4,450.4	4,400.5	4,731.2	4,689.2	5,025.7	5,138.6	5,012.6	4,713.9	4,641.8	4,178.2	4,343.1
Astronomy.....	657.3	714.5	624.5	692.0	735.3	749.6	855.5	777.1	828.5	829.5	776.4	810.9
Chemistry.....	930.0	930.8	932.7	999.3	937.8	983.0	1,037.4	954.7	969.0	936.9	938.4	885.3
Physics.....	2,535.4	2,536.2	2,620.3	2,797.5	2,776.2	2,920.2	2,984.4	2,987.4	2,707.5	2,659.5	2,120.8	2,164.2
Physical sciences nec.....	186.2	269.0	223.0	242.5	240.1	373.0	261.3	293.5	208.7	216.1	342.5	482.5
Psychology.....	468.9	505.6	517.1	538.5	552.3	572.4	345.1	623.5	607.8	675.5	559.1	570.9
Biological aspects.....	126.5	134.5	139.7	155.5	160.8	166.4	40.1	42.1	53.3	63.8	66.9	60.5
Social aspects.....	201.5	211.4	198.2	191.4	218.5	234.4	116.8	152.5	129.4	169.6	88.8	101.2
Psychological sciences nec.....	141.0	159.7	179.3	191.4	173.0	171.8	188.2	428.8	424.9	442.1	403.4	409.2
Social sciences.....	583.4	656.8	644.4	703.6	775.6	863.0	798.4	764.2	717.5	736.4	697.2	728.8
Anthropology.....	19.1	20.8	19.0	17.7	17.7	19.0	16.3	15.5	18.0	23.5	19.5	22.0
Economics.....	184.3	203.2	211.6	213.0	242.8	222.4	244.9	231.8	214.2	224.0	206.8	214.8
Political science.....	16.3	15.5	16.2	17.2	16.1	20.2	26.2	33.1	28.1	24.2	17.8	14.8
Sociology	94.1	101.3	108.5	120.2	143.1	218.3	93.4	86.8	75.5	51.9	43.9	27.1
Social sciences nec.....	269.6	316.1	289.2	335.6	355.9	383.2	417.6	396.9	381.7	412.6	409.2	450.3
Other sciences nec.....	538.1	599.7	698.4	819.3	817.1	1,072.0	935.6	1,282.3	1,173.0	978.4	874.1	947.6

Federal obligations for total research, by detailed S&E field: FY 1986–2007

(Millions of constant 2000 dollars)

Field	1998	1999	2000	2001	2002	2003	2004	2005	Average growth rate (%)			
									2006 (preliminary)	2007 (preliminary)	1986–2005	1986–2007
All fields.....	31,963.9	34,209.9	38,470.6	43,945.4	46,271.9	48,235.3	49,174.5	48,032.2	47,658.9	46,587.1	3.9	3.4
Engineering	6,094.0	6,390.9	6,346.4	8,056.2	7,975.9	7,938.3	8,171.3	7,644.7	7,782.9	8,023.2	2.0	2.0
Aeronautical	1,650.2	1,642.5	1,463.9	2,388.3	2,079.2	1,636.0	1,512.2	1,140.8	NA	NA	0.2	NA
Astronautical	652.4	633.2	515.0	739.8	733.3	663.5	612.8	441.6	NA	NA	-2.7	NA
Chemical	196.5	207.3	196.5	195.6	194.3	309.7	293.8	253.7	NA	NA	-1.6	NA
Civil	252.3	335.2	239.2	283.4	291.8	320.7	304.4	249.6	NA	NA	-0.7	NA
Electrical	660.8	712.9	744.8	874.4	779.5	897.2	821.1	923.8	NA	NA	-0.1	NA
Mechanical.....	258.0	245.3	289.3	313.7	256.3	281.8	278.2	289.3	NA	NA	-0.7	NA
Metallurgy and materials.....	815.7	804.0	918.1	1,062.2	964.3	1,023.5	955.9	1,058.4	NA	NA	2.8	NA
Engineering nec	1,608.0	1,810.4	1,979.6	2,198.6	2,677.2	2,805.8	3,393.0	3,287.7	NA	NA	7.1	NA
Environmental sciences.....	3,165.1	3,158.3	3,328.8	3,195.8	3,294.8	3,533.1	3,448.3	3,130.7	3,164.1	3,074.6	2.2	1.9
Atmospheric sciences.....	1,214.0	1,200.4	1,104.3	1,094.5	1,121.5	1,189.5	1,160.9	1,059.3	NA	NA	2.0	NA
Geological sciences.....	623.6	673.6	639.2	662.2	650.5	684.7	649.3	602.0	NA	NA	-0.2	NA
Oceanography.....	578.7	670.0	673.0	669.4	756.2	799.1	745.7	689.6	NA	NA	0.7	NA
Environmental sciences nec	748.8	614.3	912.2	769.8	766.5	859.7	892.5	779.9	NA	NA	10.3	NA
Life sciences	14,014.3	15,736.4	17,964.7	22,661.1	24,556.2	26,229.8	25,554.6	25,141.2	24,627.4	23,518.5	5.5	4.6
Biological and agricultural	7,312.1	8,211.5	12,375.0	13,873.8	15,735.2	19,273.9	13,684.6	13,536.7	NA	NA	4.9	NA
Agricultural sciences.....	788.5	866.7	895.0	990.4	1,009.7	987.9	1,001.6	978.0	NA	NA	0.8	NA
Biological sciences (excluding environmental).....	5,898.8	6,609.4	10,740.0	12,167.3	13,974.6	17,608.1	12,065.5	11,933.9	NA	NA	5.6	NA
Environmental biology.....	624.9	735.3	740.0	716.3	750.8	678.0	617.5	624.8	NA	NA	2.8	NA
Medical sciences.....	6,198.3	6,939.6	4,463.8	6,472.0	6,195.1	5,818.2	10,044.3	9,708.7	NA	NA	5.8	NA
Life sciences nec.....	503.8	585.3	1,125.9	2,315.2	2,626.0	1,137.7	1,825.7	1,895.7	NA	NA	9.5	NA
Mathematics and computer sciences.....	1,898.7	2,020.9	2,205.6	2,565.7	2,535.6	2,524.1	2,718.2	2,666.6	2,657.3	2,690.8	6.1	5.6
Computer sciences.....	1,445.8	1,547.0	1,659.6	1,988.0	1,969.4	1,938.8	1,976.7	1,928.1	NA	NA	8.3	NA
Mathematics	345.4	352.3	432.9	389.6	387.5	427.7	569.4	613.7	NA	NA	4.6	NA
Mathematics and computer sciences nec.....	107.5	121.6	113.1	188.1	178.8	157.4	172.1	124.9	NA	NA	-1.9	NA
Physical sciences	4,351.5	4,149.0	4,788.0	4,521.7	4,803.1	4,742.7	4,802.5	4,910.4	4,824.8	4,776.0	0.7	0.5
Astronomy.....	756.9	773.3	880.3	746.2	724.3	823.4	848.6	790.9	NA	NA	1.0	NA
Chemistry.....	846.6	831.5	1,225.6	1,007.3	1,139.0	1,074.7	1,097.6	1,070.3	NA	NA	0.7	NA
Physics.....	2,203.6	2,267.1	2,405.4	2,419.4	2,526.7	2,361.3	2,394.9	2,718.4	NA	NA	0.4	NA
Physical sciences nec.....	544.4	276.9	276.7	348.8	413.1	483.3	461.5	330.7	NA	NA	3.1	NA
Psychology	610.9	645.5	1,626.7	729.2	873.2	1,043.1	1,709.5	1,690.9	1,648.1	1,616.7	7.0	6.1
Biological aspects.....	43.0	18.4	8.2	13.4	10.2	21.9	5.5	2.1	NA	NA	-19.4	NA
Social aspects.....	100.8	68.0	56.0	58.8	50.6	47.8	47.6	41.7	NA	NA	-8.0	NA
Psychological sciences nec	467.1	559.1	1,562.5	657.0	812.3	973.4	1,656.3	1,647.1	NA	NA	13.8	NA
Social sciences.....	833.3	872.3	1,050.4	991.3	947.5	968.8	1,004.2	980.6	1,042.8	1,027.7	2.8	2.7
Anthropology	18.8	18.7	15.9	15.3	15.8	13.7	13.8	16.1	NA	NA	-0.9	NA
Economics.....	238.3	221.0	249.5	230.1	219.1	221.5	188.6	193.0	NA	NA	0.2	NA
Political science.....	20.9	20.6	22.6	19.2	17.7	17.5	17.2	29.2	NA	NA	3.1	NA
Sociology	104.2	85.5	90.6	93.9	92.6	117.8	110.7	62.7	NA	NA	-2.1	NA
Social sciences nec.....	451.1	526.5	671.8	632.9	602.1	598.4	673.9	679.7	NA	NA	5.0	NA
Other sciences nec.....	996.2	1,236.8	1,160.2	1,224.4	1,285.8	1,255.5	1,766.1	1,867.1	1,911.4	1,859.5	6.8	6.1

NA = not available

nec = not elsewhere classified

NOTE: Detail may not add to total because of rounding.

SOURCE: National Science Foundation, Division of Science Resources Statistics, Federal Funds for Research and Development: Fiscal Years 2005, 2006, and 2007 (forthcoming).

Federal research and experimentation tax credit claims and number of corporate tax returns claiming credit, by NAICS industry: 1998–2003

Industry	NAICS code	Tax credit claims (current US\$)						Corporate tax returns (number)					
		1998	1999	2000	2001	2002	2003	1998	1999	2000	2001	2002	2003
All industries	11,21–23,31–33, 42, 44–81	5,208,204,378	5,280,611,545	7,078,532,813	6,355,803,103	5,655,666,261	5,488,336,994	9,849	10,019	10,495	10,389	10,254	10,369
Manufacturing	31–33	3,394,757,885	3,890,850,544	4,854,498,745	4,208,606,957	3,787,024,581	3,797,439,125	4,990	4,721	4,826	4,766	4,750	4,623
Food	311	26,617,632	28,273,616	37,090,616	33,715,656	30,971,331	49,119,579	105	99	122	132	135	121
Beverage and tobacco products	312	16,432,950	8,486,438	7,877,006	12,114,650	19,204,143	3,113,803	10	8	7	10	10	10
Textiles, apparel, and leather	313–16	6,675,658	8,992,144	7,827,501	7,786,558	12,286,345	12,090,638	41	41	36	31	30	39
Wood products	321	1,351,960	1,596,321	1,998,961	1,974,311	2,073,336	1,735,367	34	29	26	31	23	16
Paper, printing, and support activities	322, 323	47,729,382	34,565,678	34,821,705	59,463,459	64,289,068	68,927,414	127	101	110	78	97	86
Petroleum and coal products	324	20,447,496	9,531,585	NA	34,958,942	36,256,972	39,399,563	26	27	NA	30	28	29
Chemicals	325	861,290,342	960,697,803	1,070,257,259	999,405,006	949,114,502	1,001,643,789	711	580	564	650	634	593
Pharmaceuticals and medicines	3254	628,383,791	713,343,320	800,554,948	805,557,884	777,855,951	736,269,385	381	250	247	297	275	267
Plastics and rubber products	326	20,933,570	26,256,213	25,050,356	18,884,096	24,218,141	21,244,655	163	113	108	118	97	116
Nonmetallic mineral products	327	11,248,751	10,713,531	8,441,334	9,735,261	9,515,868	9,670,349	42	36	36	27	29	42
Primary metals	331	6,767,782	6,547,936	6,190,892	6,010,051	8,095,937	8,076,961	31	36	55	43	43	44
Fabricated metal products	332	23,807,870	24,697,929	23,402,704	24,242,590	27,911,533	59,387,415	368	310	271	260	220	273
Machinery	333	178,546,039	130,311,168	148,768,078	154,209,760	148,667,638	134,808,162	446	417	450	425	388	344
Computer and electronic products	334	1,144,966,262	1,566,081,043	2,209,995,767	1,677,193,981	1,152,787,771	1,168,467,482	1,623	1,626	1,617	1,604	1,663	1,565
Computers and peripheral equipment	3341	345,841,988	587,412,049	691,381,426	487,777,264	380,276,292	386,139,566	279	252	245	346	320	256
Communications equipment	3342	362,243,083	432,631,722	650,858,905	433,269,462	220,147,480	212,289,405	424	377	285	345	312	287
Semiconductor and other electronic components	3344	338,137,521	426,997,184	739,596,876	567,390,088	411,722,978	461,353,261	555	539	596	552	564	482
Navigational, measuring, electromedical, and control instruments	3345	67,639,973	81,700,450	72,234,154	138,872,257	100,472,191	72,155,806	291	304	331	209	318	408
Electrical equipment, appliances, and components	335	119,075,737	136,135,082	177,766,599	180,985,392	163,536,246	117,260,306	418	401	397	411	536	516
Transportation equipment	336	747,814,159	778,059,211	902,709,530	785,698,593	957,277,133	896,992,236	162	125	195	186	191	201
Motor vehicles, trailers, and parts	3361–63	612,474,928	663,472,479	761,717,964	638,560,145	590,750,372	649,790,415	80	72	84	83	117	130
Aerospace products and parts	3364	108,369,587	95,696,637	122,514,132	130,821,135	348,498,093	220,373,933	43	34	47	53	46	44
Furniture and related products	337	7,255,743	6,217,049	7,497,398	8,898,678	10,374,375	6,610,441	43	38	57	32	60	20
Miscellaneous manufacturing	339	153,796,611	153,687,798	161,798,268	193,329,974	170,444,240	198,890,965	639	734	751	699	566	608
Medical equipment and supplies	3391	130,882,112	132,983,329	137,501,336	155,123,972	146,312,410	171,825,110	382	488	433	431	353	380
Nonmanufacturing	11,21–23,42,44–81	1,813,446,493	1,389,761,001	2,224,034,068	2,147,196,147	1,868,641,681	1,690,897,869	4,859	5,298	5,669	5,623	5,504	5,746
Agriculture, forestry, fishing, and hunting	11	11,859,000	10,494,000	3,927,000	3,023,522	3,491,115	4,499,337	55	36	39	35	51	60
Mining, extraction, and support activities	21	9,162,970	3,700,120	14,650,217	9,668,927	7,199,079	18,136,928	15	12	15	44	20	21
Utilities	22	21,915,554	18,402,766	10,339,854	8,546,207	6,307,200	4,496,035	44	34	29	23	18	18
Construction	23	2,286,487	6,743,738	13,031,010	9,360,211	11,060,055	11,002,452	31	33	11	15	31	20
Trade	42, 44 (NO 45)	139,605,447	123,894,399	186,537,254	186,161,921	193,814,270	198,050,156	392	751	608	693	616	594
Transportation and warehousing	48 (NO 49)	14,237,060	13,664,409	20,840,334	16,185,949	13,722,160	12,681,010	18	17	21	19	17	17
Information	51	1,019,709,638	634,297,902	1,146,523,854	1,001,296,299	801,073,348	633,275,236	953	1,466	1,506	1,502	1,242	1,149
Publishing	511	698,708,900	277,080,208	707,071,152	623,169,602	493,094,358	357,527,734	635	858	913	975	835	761
Software	5112	686,171,119	263,723,192	685,882,458	603,049,452	477,847,254	336,343,705	612	840	890	952	816	442
Broadcasting and telecommunications	515–517	198,149,661	187,927,589	211,282,105	184,987,303	171,658,781	159,731,274	111	206	182	179	203	167

Federal research and experimentation tax credit claims and number of corporate tax returns claiming credit, by NAICS industry: 1998–2003

Industry	NAICS code	Tax credit claims (current US\$)						Corporate tax returns (number)					
		1998	1999	2000	2001	2002	2003	1998	1999	2000	2001	2002	2003
Finance, insurance, and real estate	52, 53	93,988,006	111,181,349	141,444,980	126,024,549	96,250,322	99,506,745	109	98	109	124	208	206
Professional, scientific, and technical services.....	54	419,791,370	417,648,250	611,640,352	649,800,520	576,581,251	549,140,532	2,383	2,645	2,959	2,887	2,900	3,446
Architectural, engineering, and related services.....	5413	14,566,820	33,775,708	42,999,419	43,499,333	28,175,238	23,408,193	142	211	163	136	98	326
Computer systems design and related services.....	5415	230,416,196	170,513,781	261,491,092	231,064,404	177,595,938	156,690,957	741	1,193	1,329	1,204	1,230	1,340
Scientific R&D services	5417	149,915,617	174,422,007	254,308,119	307,839,482	320,343,249	315,495,430	1,298	929	1,122	1,190	1,200	1,276
Management of companies and enterprises	55	43,107,833	12,537,433	36,706,057	82,294,839	100,337,133	94,894,187	55	39	66	52	55	50
Administrative and support and waste management and remediation services.....	56	NA	NA	NA	26,060,049	25,913,688	30,787,944	NA	NA	NA	47	31	82
Health care and social assistance	62	NA	NA	NA	22,101,503	24,105,289	29,355,831	NA	NA	NA	137	73	64

NA = not available;

NAICS = North American Industry Classification System

NOTE: Data exclude Internal Revenue Service (IRS) forms 1120S (S corporations), 1120-REIT (Real Estate Investment Trusts), and 1120-RIC (Regulated Investment Companies).

SOURCE: IRS, Statistics of Income program, special tabulations.

Science and Engineering Indicators 2008

Appendix table 4-34

Number of external users at Department of Energy facilities, by science program and facility: FY 2006

Science program and facilities	FY 2006
All.....	21,198
Basic Energy Sciences (BES)	10,024
Synchrotron Radiation Light Sources	
National Synchrotron Light Source (NSLS)	2,105
Stanford Synchrotron Radiation Laboratory (SSRL)	1,124
Advanced Light Source (ALS).....	2,158
Advanced Photon Source (APS)	3,274
High-Flux Neutron Sources	
High Flux Isotope Reactor (HFIR).....	42
Intense Pulsed Neutron Source (IPNS)	211
Manuel Lujan Jr. Neutron Scattering Center (Lujan Center)	297
Electron Beam Microcharacterization Centers	
Electron Microscopy Center for Materials Research	140
National Center for Electron Microscopy	205
Shared Research Equipment Program	132
Specialized Single-Purpose Centers	
Combustion Research Facility (CRF).....	77
Materials Preparation Center	220
Pulse Radiolysis Facility.....	39
Advanced Scientific Computing Research	3,203
National Energy Research Scientific Computing Center.....	2,815
Oak Ridge Leadership Computing Facility	388
High Energy Physics (HEP).....	3,026
Tevatron	2,125
B-Factor/SLAC	901
Biological and Environmental Research (BER)	2,480
Environmental Molecular Sciences Laboratory	1,600
Production Genomics Facility.....	80
Atmospheric Radiation Measurement	800
Nuclear Physics (NP).....	1,990
Relativistic Heavy Ion Collider (RHIC), Continuous Electron Beam Accelerator Facility (CEBAF), Argonne Tandem Linear Accelerator System (ATLAS), Holifield Radioactive Ion Beam Facility (HRIBF).....	1,990
Fusion Energy Sciences.....	475
DIII-D.....	240
Alcator C-Mod	105
NSTX.....	130

NOTES: External users are non-Department of Energy (DOE) researchers. One facility user may represent an individual researcher or a research team.

SOURCE: DOE, special tabulations, 1 June 2007.

Appendix table 4-35

R&D expenditures and R&D as percentage of gross domestic product, by selected country and for all OECD countries: 1981–2006

Year	U.S. ^a	Japan ^b	Germany ^c	France	UK	Italy	Canada	Russian Federation	All OECD
2000 constant US\$billions ^d									
1981.....	122.3	42.8	29.6	19.3	21.5	8.6	6.3	NA	276.1
1982.....	128.7	45.8	30.3	20.6	NA	8.9	6.8	NA	288.7
1983.....	137.9	49.3	30.9	21.4	20.9	9.4	6.9	NA	304.5
1984.....	151.1	52.6	31.7	22.6	NA	10.4	7.5	NA	327.6
1985.....	164.5	58.3	34.8	23.7	22.6	11.8	8.1	NA	356.3
1986.....	168.8	59.3	36.0	24.1	23.7	12.3	8.5	NA	367.4
1987.....	172.6	63.3	38.1	25.2	24.1	13.3	8.5	NA	381.5
1988.....	176.9	68.1	39.3	26.3	24.7	14.2	8.8	NA	396.1
1989.....	180.6	74.2	40.6	28.0	25.3	14.9	9.5	NA	412.6
1990.....	186.3	80.4	41.0	30.0	25.5	15.8	9.9	33.0	431.2
1991.....	190.5	82.2	44.2	30.5	24.2	15.2	10.1	23.8	450.8
1992.....	191.4	81.3	43.1	31.0	23.7	14.8	10.5	9.3	452.8
1993.....	187.5	79.3	41.4	31.2	24.6	14.0	11.1	8.8	448.7
1994.....	187.5	78.5	40.8	31.1	25.1	13.3	12.0	8.4	452.0
1995.....	199.4	83.5	41.6	31.3	25.1	13.1	12.1	8.1	478.5
1996.....	210.3	89.1	42.1	31.4	24.8	13.3	12.0	8.9	499.8
1997.....	222.3	92.6	43.7	31.0	24.6	14.2	12.5	9.8	522.8
1998.....	234.7	95.0	45.3	31.3	25.3	14.6	13.8	8.5	544.2
1999.....	250.4	95.4	48.7	32.7	27.1	14.5	14.9	9.4	572.1
2000.....	267.6	98.8	51.5	33.8	28.0	15.4	16.7	10.9	606.8
2001.....	271.2	101.6	52.3	35.2	28.2	16.3	18.6	12.8	625.3
2002.....	265.5	103.3	52.9	36.1	28.8	17.0	18.7	14.2	626.4
2003.....	271.6	105.8	53.5	35.5	28.8	16.6	18.7	15.7	642.4
2004.....	274.2	107.7	53.8	35.9	28.8	16.7	19.4	15.2	663.2
2005.....	286.5	NA	54.5	36.1	NA	NA	19.6	14.9	NA
2006.....	293.3	NA	NA	NA	NA	NA	19.9	NA	NA
GDP (%)									
1981.....	2.31	2.33	2.35	1.90	2.38	0.86	1.22	NA	1.91
1982.....	2.48	2.42	2.42	1.98	NA	0.88	1.37	NA	2.00
1983.....	2.54	2.56	2.43	2.01	2.20	0.93	1.34	NA	2.05
1984.....	2.60	2.64	2.43	2.10	NA	0.99	1.38	NA	2.11
1985.....	2.72	2.58	2.60	2.15	2.24	1.10	1.42	NA	2.22
1986.....	2.69	2.55	2.63	2.14	2.26	1.11	1.46	NA	2.22
1987.....	2.67	2.62	2.74	2.18	2.19	1.16	1.41	NA	2.23
1988.....	2.62	2.64	2.73	2.18	2.14	1.19	1.38	NA	2.22
1989.....	2.59	2.73	2.71	2.23	2.15	1.21	1.45	NA	2.22
1990.....	2.62	2.81	2.61	2.33	2.15	1.25	1.51	2.03	2.26
1991.....	2.68	2.78	2.47	2.33	2.07	1.19	1.57	1.43	2.19
1992.....	2.61	2.73	2.35	2.33	2.02	1.15	1.62	0.74	2.16
1993.....	2.49	2.65	2.28	2.37	2.05	1.10	1.68	0.77	2.11
1994.....	2.39	2.60	2.18	2.32	2.01	1.02	1.73	0.84	2.06
1995.....	2.48	2.71	2.19	2.29	1.95	0.97	1.70	0.85	2.07
1996.....	2.52	2.82	2.19	2.27	1.87	0.99	1.65	0.97	2.10
1997.....	2.55	2.89	2.24	2.19	1.81	1.03	1.66	1.04	2.12
1998.....	2.59	3.02	2.27	2.14	1.80	1.05	1.76	0.95	2.15
1999.....	2.64	3.04	2.40	2.16	1.87	1.02	1.80	1.00	2.19
2000.....	2.73	3.05	2.45	2.15	1.86	1.05	1.92	1.05	2.23
2001.....	2.74	3.13	2.46	2.20	1.83	1.09	2.09	1.18	2.27
2002.....	2.64	3.18	2.49	2.23	1.83	1.13	2.04	1.25	2.24
2003.....	2.64	3.20	2.52	2.17	1.79	1.11	2.01	1.28	2.25
2004.....	2.56	3.18	2.50	2.14	1.73	1.10	2.01	1.16	2.25
2005.....	2.59	NA	2.51	2.13	NA	NA	1.98	1.07	NA
2006.....	2.57	NA	NA	NA	NA	NA	1.95	NA	NA

NA = not available

GDP = gross domestic product; OECD = Organisation for Economic Co-operation and Development; UK = United Kingdom

^aData for United States do not include capital expenditures for R&D, business sector social sciences R&D, or humanities R&D.^bData for 1996 on may not be consistent with earlier data because of changes in methodology.^c1981–90 data for West Germany.^dConversions of foreign currencies to U.S. dollars calculated with each country's GDP implicit price deflator and with OECD purchasing power parity exchange rates.

SOURCES: National Science Foundation, Division of Science Resources Statistics, National Patterns of R&D Resources (annual series); and OECD, Main Science and Technology Indicators (2006).

Appendix table 4-36

International nondefense R&D expenditures and nondefense R&D as percentage of gross domestic product, by selected country: 1981–2006

Year	U.S. ^a	Japan ^b	Germany ^c	France	UK	Italy	Canada
	2000 constant US\$billions ^d						
1981.....	92	39	28	16	17	8	6
1982.....	95	42	29	17	NA	9	7
1983.....	100	45	30	17	16	9	7
1984.....	108	48	31	19	NA	10	7
1985.....	115	58	33	19	18	11	8
1986.....	116	59	34	20	19	12	8
1987.....	118	63	36	20	20	13	8
1988.....	123	68	38	21	21	14	8
1989.....	131	74	39	23	19	15	9
1990.....	140	80	39	24	20	16	10
1991.....	148	82	42	25	20	15	10
1992.....	150	80	42	26	20	15	10
1993.....	148	78	40	26	21	14	11
1994.....	150	78	39	26	21	13	12
1995.....	162	89	40	27	21	13	12
1996.....	173	88	41	28	21	13	12
1997.....	185	91	42	28	21	14	12
1998.....	198	94	44	29	21	15	14
1999.....	214	94	48	30	23	15	15
2000.....	232	98	51	31	24	15	16
2001.....	233	101	51	32	25	16	18
2002.....	225	102	52	33	26	NA	18
2003.....	227	104	53	31	25	NA	18
2004.....	228	106	53	32	26	NA	19
2005.....	238	NA	54	NA	NA	NA	19
2006.....	245	NA	NA	NA	NA	NA	20
	GDP (%)						
1981.....	1.7	2.1	2.3	1.5	1.9	0.8	1.2
1982.....	1.8	2.2	2.3	1.6	NA	0.9	1.3
1983.....	1.8	2.3	2.3	1.6	1.7	0.9	1.3
1984.....	1.9	2.4	2.3	1.7	NA	0.9	1.3
1985.....	1.9	2.6	2.5	1.8	1.8	1.0	1.4
1986.....	1.8	2.5	2.5	1.8	1.8	1.1	1.4
1987.....	1.8	2.6	2.6	1.8	1.8	1.2	1.3
1988.....	1.8	2.6	2.6	1.8	1.8	1.2	1.3
1989.....	1.9	2.7	2.6	1.8	1.7	1.2	1.4
1990.....	2.0	2.8	2.5	1.9	1.7	1.2	1.5
1991.....	2.1	2.8	2.4	1.9	1.7	1.2	1.5
1992.....	2.0	2.7	2.3	1.9	1.7	1.1	1.6
1993.....	2.0	2.6	2.2	2.0	1.7	1.1	1.6
1994.....	1.9	2.6	2.1	2.0	1.7	1.0	1.7
1995.....	2.0	2.9	2.1	2.0	1.7	1.0	1.7
1996.....	2.1	2.8	2.1	2.0	1.6	1.0	1.6
1997.....	2.1	2.9	2.2	2.0	1.5	1.0	1.6
1998.....	2.2	3.0	2.2	2.0	1.5	1.1	1.7
1999.....	2.3	3.0	2.3	2.0	1.6	1.0	1.8
2000.....	2.4	3.0	2.4	2.0	1.6	1.0	1.9
2001.....	2.4	3.1	2.4	2.0	1.6	1.1	2.1
2002.....	2.2	3.2	2.5	2.1	1.6	NA	2.0
2003.....	2.2	3.2	2.5	1.9	1.6	NA	2.0
2004.....	2.1	3.1	2.5	1.9	1.6	NA	2.0
2005.....	2.1	NA	2.5	NA	NA	NA	2.0
2006.....	2.1	NA	NA	NA	NA	NA	1.9

NA = not available; GDP = gross domestic product; UK = United Kingdom

^aData for United States do not include capital expenditures for R&D, business sector social sciences R&D, or humanities R&D.

^bData for 1996 on may not be consistent with earlier data because of changes in methodology.

^c1981–90 data for West Germany.

^dEstimated nondefense R&D data. Nondefense R&D/GDP obtained directly from Organisation for Economic Co-operation and Development (OECD) reports, or for following countries and years, estimated by National Science Foundation (NSF) from OECD data: United States, all years; Japan, 1995 on; Germany, 1990 and earlier; UK, 1981–84 and 1986–88; Italy, 1986 and earlier; and Canada, 1990 on. Conversions of foreign currency to U.S. dollars calculated with OECD purchasing power parity exchange rates.

NOTE: Nondefense R&D/GDP for Russian Federation was 1.2 in 1990, 0.6 in 1995, 0.8 in 2000, and 0.9 in 2002.

SOURCES: National Science Foundation, Division of Science Resources Statistics, National Patterns of R&D Resources (annual series); and OECD, Main Science and Technology Indicators (2006).

Appendix table 4-37

International R&D expenditures for selected countries, by funding and performing sectors: Selected years, 2004–06

Country/R&D performer	Source of R&D funds						Performers (% distribution)
	All sources	Industry	Government	Higher education	Private nonprofit	Abroad	
Japan (2004) (billions yen).....	15,782,743	11,807,293	2,852,667	962,235	109,716	50,833	100.0
Industry.....	11,867,276	11,658,708	148,798	1,249	9,667	48,854	75.2
Government.....	1,497,546	12,853	1,481,095	1,203	2,333	64	9.5
Higher education.....	2,119,125	58,639	1,081,542	959,343	19,128	473	13.4
Private nonprofit.....	298,796	77,093	141,232	440	78,588	1,442	1.9
Percent distribution, sources.....	100.0	74.8	18.1	6.1	0.7	0.3	na
Germany (2004) (millions euros).....	55,215	36,866	16,771	0	215	1,363	100.0
Industry.....	38,611	35,449	2,251	NA	23	888	69.9
Government.....	7,514	219	6,917	NA	192	186	13.6
Higher education.....	9,089	1,198	7,603	NA	NA	289	16.5
Private nonprofit.....	NA	NA	NA	NA	NA	NA	NA
Percent distribution, sources.....	100.0	66.8	30.4	0.0	0.4	2.5	na
France (2004) (millions euros).....	35,534	18,383	13,348	349	316	3,139	100.0
Industry.....	22,210	17,736	2,067	2	8	2,396	62.5
Government.....	6,059	388	5,111	21	18	521	17.1
Higher education.....	6,806	185	6,097	310	33	182	19.2
Private nonprofit.....	458	74	72	16	257	40	1.3
Percent distribution, sources.....	100.0	51.7	37.6	1.0	0.9	8.8	na
Italy (2004) (millions euros).....	15,253	NA	NA	NA	NA	NA	100.0
Industry.....	7,293	5,473	1,005	3	6	806	47.8
Government.....	2,722	78	2,402	4	81	157	17.8
Higher education.....	5,005	NA	NA	NA	NA	NA	32.8
Private nonprofit.....	233	23	80	1	113	16	1.5
Percent distribution, sources.....	NA	NA	NA	NA	NA	NA	na
United Kingdom (2004) (millions pounds).....	20,331	8,991	6,659	215	960	3,507	100.0
Industry.....	12,816	8,484	1,334	NA	5	2,993	63.0
Government.....	2,089	195	1,726	11	89	69	10.3
Higher education.....	4,759	243	3,169	198	761	388	23.4
Private nonprofit.....	667	69	430	6	105	57	3.3
Percent distribution, sources.....	100.0	44.2	32.8	1.1	4.7	17.2	na
Canada (2006) (millions Canadian dollars).....	28,357	13,245	9,568	2,251	877	2,416	100.0
Industry.....	14,850	12,239	325	NA	NA	2,286	52.4
Government.....	2,490	92	2,398	NA	NA	0	8.8
Higher education.....	10,890	899	6,780	2,253	842	116	38.4
Private nonprofit.....	127	15	63	0	35	14	0.4
Percent distribution, sources.....	100.0	46.7	33.7	7.9	3.1	8.5	na
Russian Federation (2005) (billions rubles).....	230,785	69,245	142,961	983	68	17,528	100.0
Industry.....	156,880	58,461	84,033	47	15	14,325	68.0
Government.....	60,158	6,846	50,590	47	22	2,654	26.1
Higher education.....	13,338	3,911	7,982	889	21	535	5.8
Private nonprofit.....	409	28	356	1	11	14	0.2
Percent distribution, sources.....	100.0	30.0	61.9	0.4	0.0	7.6	na
South Korea (2005) (billions won).....	24,155,414	18,106,814	5,561,734	218,794	96,638	171,433	100.0
Industry.....	18,564,243	17,532,346	861,770	3,559	6,766	159,802	76.9
Government.....	2,865,008	122,762	2,720,917	11,273	7,574	2,482	11.9
Higher education.....	2,398,284	364,406	1,787,765	198,947	41,991	5,175	9.9
Private nonprofit.....	327,879	87,300	191,282	5,015	40,307	3,974	1.4
Percent distribution, sources.....	100.0	75.0	23.0	0.9	0.4	0.7	na
United States (2006) (US\$millions).....	340,429	223,371	97,274	9,297	10,488	NA	100.0
Industry.....	242,129	219,569	22,560	NA	NA	NA	71.1
Government.....	37,388	0	37,388	NA	NA	NA	11.0
Higher education.....	46,642	2,452	31,605	9,297	3,288	NA	13.7
Private nonprofit.....	14,271	1,350	5,721	NA	7,200	NA	4.2
Percent distribution, sources.....	100.0	65.6	28.6	2.7	3.1	NA	na

na = not applicable; NA = not available

NOTE: Data for United States do not include capital expenditures for R&D, business sector social sciences R&D, or humanities R&D.

SOURCES: National Science Foundation, Division of Science Resources Statistics, National Patterns of R&D Resources (annual series); and Organisation for Economic Co-operation and Development, special tabulations (2007).

Appendix table 4-38

Proportion of industry R&D expenditures financed by foreign sources, by selected country/region: 1981–2005

(Percent)

Year	Canada	France	Germany ^a	Italy	UK	Japan	Russian Federation	EU-15
1981.....	7.4	7.1	1.2	4.3	8.7	0.1	NA	4.5
1982.....	10.7	4.8	1.3	4.7	NA	0.1	NA	NA
1983.....	16.6	4.6	1.4	4.3	6.8	0.1	NA	3.7
1984.....	17.1	6.5	1.5	6.2	NA	0.1	NA	NA
1985.....	14.3	6.9	1.4	6.1	11.1	0.1	NA	5.0
1986.....	13.6	8.0	1.4	7.3	12.2	0.1	NA	5.5
1987.....	16.8	8.7	1.5	6.9	12.0	0.1	NA	5.5
1988.....	18.0	9.2	2.1	6.6	12.0	0.1	NA	5.7
1989.....	17.1	10.9	2.7	6.5	13.4	0.1	NA	6.8
1990.....	17.9	11.1	2.7	7.3	15.5	0.1	NA	7.4
1991.....	18.5	11.4	2.6	9.6	16.0	0.1	NA	7.5
1992.....	17.8	12.0	2.5	6.3	14.9	0.1	NA	7.4
1993.....	17.7	11.3	1.9	6.9	15.4	0.1	NA	7.6
1994.....	19.4	11.2	2.0	9.5	16.0	0.1	1.9	8.2
1995.....	19.5	11.1	2.2	8.2	19.1	0.1	5.1	8.8
1996.....	20.8	11.4	2.3	9.6	21.7	0.1	6.1	9.2
1997.....	20.0	10.6	2.8	9.0	18.8	0.4	8.5	9.1
1998.....	25.8	9.4	2.7	8.1	22.1	0.4	11.1	9.2
1999.....	25.4	8.8	2.1	8.1	22.7	0.5	19.8	9.0
2000.....	28.5	9.0	2.1	8.2	21.5	0.6	13.6	8.8
2001.....	19.8	8.7	2.4	6.6	27.0	0.5	9.2	9.7
2002.....	13.5	10.2	2.4	10.3	29.7	0.5	8.4	11.1
2003.....	14.9	10.4	2.3	9.6	28.1	0.4	10.0	10.7
2004.....	15.4	10.8	2.3	11.1	23.4	0.4	8.9	10.1
2005.....	15.4	NA	NA	NA	NA	NA	9.1	NA

NA = not available

EU = European Union; UK = United Kingdom

^a1981–90 data for West Germany.

SOURCE: Organisation for Economic Co-operation and Development, Main Science and Technology Indicators (2006).

Appendix table 4-39

Source of all R&D and industry R&D expenditures for OECD countries: 1981–2004

(Percent)

Year	All R&D			Industry R&D	
	Government	Industry	Other	Government	Other
1981.....	44.0	51.8	4.2	21.1	78.9
1982.....	43.5	52.4	4.1	21.3	78.7
1983.....	43.0	52.9	4.1	21.1	78.9
1984.....	42.2	53.6	4.2	20.8	79.2
1985.....	41.4	54.3	4.3	20.9	79.1
1986.....	41.0	54.6	4.5	20.7	79.3
1987.....	40.9	54.4	4.7	20.7	79.3
1988.....	39.4	55.8	4.9	19.0	81.0
1989.....	37.8	57.1	5.2	16.8	83.2
1990.....	36.8	57.8	5.4	15.7	84.3
1991.....	35.6	58.8	5.6	13.9	86.1
1992.....	35.0	59.2	5.8	12.6	87.4
1993.....	35.2	58.6	6.2	12.0	88.0
1994.....	34.5	58.9	6.6	11.2	88.8
1995.....	34.0	59.4	6.6	11.0	89.0
1996.....	32.4	60.8	6.8	10.2	89.8
1997.....	31.2	61.9	7.0	9.6	90.4
1998.....	30.6	62.2	7.2	9.2	90.8
1999.....	29.6	63.1	7.3	8.4	91.6
2000.....	28.3	64.4	7.3	7.0	93.0
2001.....	28.7	63.8	7.5	6.8	93.2
2002.....	29.7	62.5	7.8	6.5	93.5
2003.....	30.4	61.9	7.7	7.4	92.6
2004.....	30.3	62.2	7.6	7.6	92.5

OECD = Organisation for Economic Co-operation and Development

SOURCE: OECD, Main Science and Technology Indicators (2006).

Appendix table 4-40

Academic R&D financed by industry, by selected OECD countries: 1981–2006

(Percent)

Year	Canada	France	Germany	Japan	South Korea	Spain	UK	U.S.	All OECD	China	Russia
1981.....	4.1	1.3	1.8	1.0	NA	NA	2.8	4.4	2.9	NA	NA
1982.....	3.3	1.3	3.5	1.1	NA	NA	NA	4.8	3.2	NA	NA
1983.....	3.9	1.3	5.2	1.2	NA	NA	3.1	5.2	3.5	NA	NA
1984.....	3.9	1.5	5.3	1.5	NA	1.2	NA	5.7	3.9	NA	NA
1985.....	4.3	1.9	5.4	1.6	NA	1.1	5.2	6.1	4.2	NA	NA
1986.....	4.1	2.0	5.8	1.7	NA	1.5	5.7	6.5	4.5	NA	NA
1987.....	5.0	3.6	6.4	1.8	NA	2.7	5.7	6.5	4.8	NA	NA
1988.....	5.1	4.0	6.8	2.2	NA	8.1	7.3	6.6	5.4	NA	NA
1989.....	4.9	4.6	7.1	2.2	NA	9.2	7.7	6.8	5.7	NA	NA
1990.....	5.0	4.9	7.9	2.3	NA	8.9	7.6	6.9	5.8	NA	NA
1991.....	7.0	4.2	7.0	2.4	NA	10.0	7.8	6.8	6.0	NA	NA
1992.....	8.3	3.7	7.6	2.5	NA	7.4	7.8	6.8	6.1	NA	NA
1993.....	8.6	3.3	8.4	2.4	NA	5.9	7.6	6.8	6.1	NA	NA
1994.....	8.1	3.2	8.3	2.3	NA	5.9	6.0	6.7	6.0	NA	27.0
1995.....	8.1	3.3	8.2	2.4	22.4	8.3	6.3	6.8	6.2	NA	27.5
1996.....	9.1	3.2	9.2	2.4	50.5	7.5	6.7	7.1	6.9	NA	23.7
1997.....	9.8	3.1	9.7	2.4	14.9	6.5	7.1	7.3	6.4	NA	22.8
1998.....	9.4	3.4	10.5	2.3	13.1	7.0	7.3	7.5	6.4	NA	24.7
1999.....	9.1	3.4	11.3	2.3	10.8	7.7	7.3	7.4	6.5	NA	23.8
2000.....	9.6	2.7	11.6	2.5	15.9	6.9	7.1	7.1	6.6	32.4	27.3
2001.....	9.4	3.1	12.2	2.3	14.3	8.7	6.2	6.5	6.4	NA	26.5
2002.....	8.6	2.9	11.8	2.8	13.9	7.6	5.8	5.8	6.2	NA	27.2
2003.....	8.3	2.7	12.6	2.9	13.6	6.4	5.6	5.3	6.0	35.9	27.9
2004.....	8.2	2.7	13.2	2.8	15.9	7.5	5.1	5.1	6.2	37.1	32.6
2005.....	8.3	NA	NA	NA	15.2	NA	NA	5.2	NA	36.7	29.3
2006.....	8.3	NA	NA	NA	NA	NA	NA	5.3	NA	NA	NA

NA = not available

OECD = Organisation for Economic Co-operation and Development; UK = United Kingdom

SOURCES: National Science Foundation, Division of Science Resources Statistics, National Patterns of R&D Resources (annual series); and OECD, Main Science and Technology Indicators (2006).

Appendix table 4-41

Government R&D budget appropriations, by selected country and socioeconomic objective: 2005 or 2006

(Percent)

Socioeconomic objective	U.S. (2006)	Japan (2005)	France (2005)	Germany (2005)	UK (2005)	Italy (2006)	South Korea (2005)	Canada (2006)
All objectives (2000 US\$millions)	117,942	24,740	15,809	16,661	12,284	9,162	8,000	5,781
Exploration and exploitation of Earth	0.8	1.8	0.9	1.8	2.3	2.1	1.2	1.9
Infrastructure and general planning of land use	1.3	4.4	0.6	1.8	1.1	0.9	4.5	2.7
Control and care of environment	0.5	0.8	2.7	3.4	1.8	2.5	4.5	4.2
Protection and improvement of human health	21.8	3.9	6.1	4.3	14.7	10.0	7.8	15.0
Energy	0.9	16.8	4.5	2.8	0.4	4.1	6.4	4.8
Agriculture production and technology	2.0	3.3	2.3	1.8	3.3	3.8	8.0	6.7
Industrial production and technology	0.3	7.3	6.2	12.6	1.7	10.2	26.9	11.4
Social structures and relationships	1.3	0.7	0.4	3.9	3.5	5.0	3.8	3.2
Exploration and exploitation of space	7.6	6.7	9.0	4.9	2.0	9.5	3.0	4.2
General university funds	NA	33.9	24.8	40.6	21.7	44.2	NA	32.6
Nonoriented research	5.5	16.3	17.8	16.3	16.0	6.3	20.7	8.0
Other civil research	0.0	0.0	2.3	0.7	0.5	0.0	0.0	1.6
Defense	57.9	4.0	22.3	5.8	31.0	1.4	13.3	3.6

NA = not available

UK = United Kingdom

NOTES: United States, Russian Federation, and South Korea do not have category equivalent to general university funds (GUF). Conversions of foreign currency to U.S. dollars calculated with Organisation for Economic Co-operation and Development (OECD) purchasing power parity exchange rates. U.S. data based on budget authority. Because of GUF and slight differences in accounting practices, distribution of government budgets among socioeconomic objectives may not completely reflect actual distribution of government-funded research in particular objectives. Japanese data based on science and technology budget data, which include items other than R&D. Such items are small proportion of budget; therefore, data may still be used as approximate indicator of relative government emphasis on R&D by objective. Detail may not add to total because of rounding.

SOURCES: OECD, special tabulations (2007); and Main Science and Technology Indicators (2006).

Science and Engineering Indicators 2008

Share of business expenditures for R&D, by industry and selected country/economy: 2003 or 2004

(Percent)

Industry	ISIC	Czech Republic						
		EU (2003)	Australia (2003)	Belgium (2004)	Canada (2004)	(2004)	Denmark (2004)	Finland (2004)
All business enterprise.....	na	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Manufacturing	15–37	82.8	45.6	78.4	58.3	61.3	65.5	83.1
Food products, beverages, and tobacco	15–16	1.9	3.6	2.9	0.8	0.7	5.2	1.4
Textiles, textile products, leather, and footwear	17–19	0.5	0.5	1.1	0.7	0.9	0.1	0.3
Wood, paper, printing, and publishing	20–22	0.7	2.1	0.5	3.6	0.1	1.8	3.1
Chemical, rubber, plastics, and fuel products	23–25	22.5	8.1	39.7	11.3	8.5	30.6	9.1
Coke, refined petroleum products, and nuclear fuel	23	0.7	0.9	1.6	0.9	0.1	0.0	0.3
Chemicals and chemical products	24	20.0	6.4	35.7	9.8	7.0	29.2	7.3
Chemicals excluding pharmaceuticals.....	24 (minus 2423)	6.5	2.7	13.1	1.4	2.7	4.8	4.9
Pharmaceuticals	2,423	13.4	3.7	22.5	8.3	4.4	24.4	2.4
Rubber and plastics products	25	1.8	0.8	2.4	0.6	1.5	1.4	1.5
Other nonmetallic mineral products	26	0.7	1.3	1.2	0.1	2.1	0.4	0.4
Basic metals.....	27	0.9	3.6	2.9	2.0	1.2	0.2	1.0
Fabricated metal products (excluding machinery and equipment)	28	1.1	1.2	2.9	1.7	1.7	0.4	2.3
Machinery and equipment, instruments, and transportation equipment.....	29–35	53.9	24.8	26.6	37.2	45.2	26.2	64.5
Machinery and equipment nec	29	7.8	3.4	5.0	2.5	6.9	8.9	6.2
Office, accounting, and computing machinery	30	2.0	0.7	0.4	2.9	0.2	0.8	0.1
Electrical machinery and apparatus nec	31	3.1	1.1	3.1	1.5	3.5	3.5	4.4
Radio, TV, and communication equipment.....	32	11.0	3.1	11.5	17.4	3.4	3.6	49.5
Instruments, watches, and clocks.....	33	5.4	4.6	2.3	2.0	1.6	9.2	2.8
Motor vehicles.....	34	16.9	10.0	2.2	3.8	26.2	0.1	0.2
Other transportation equipment.....	35	7.6	2.0	2.2	7.0	3.5	0.1	1.3
Building and repairing ships and boats.....	351	0.3	1.2	0.0	NA	0.0	NA	0.4
Aircraft and spacecraft.....	353	6.8	0.1	2.1	6.8	2.0	NA	0.4
Railroad and other transportation equipment nec	352+359	0.5	0.7	0.1	0.2	1.6	NA	0.5
Furniture, manufacturing nec.....	36	0.6	0.3	0.5	0.7	0.5	0.4	0.7
Recycling.....	37	NA	0.1	0.1	NA	0.2	NA	0.2
Electricity, gas, and water	40–41	0.7	1.0	0.7	0.9	0.1	0.1	0.6
Construction	45	0.4	1.8	1.6	0.3	1.2	0.4	1.2
Services	50–99	15.0	41.1	17.8	37.9	36.9	33.3	14.5
Wholesale and retail trade, repairs.....	50–52	0.8	4.4	0.8	4.8	2.2	0.9	0.2
Hotels and restaurants	55	NA	0.2	0.2	NA	0.0	NA	NA
Transport and storage.....	60–63	NA	0.5	1.1	0.3	0.3	NA	0.3
Post and telecommunications.....	64	NA	3.4	2.3	3.4	0.1	3.6	6.1
Post and courier activities	641	NA	0.3	0.0	NA	0.1	NA	NA
Telecommunications	642	NA	3.1	2.3	NA	0.1	2.5	NA
Financial intermediation	65–67	NA	8.6	0.7	2.1	1.1	7.7	NA
Real estate, renting, and business activities.....	70–74	NA	23.2	12.3	27.3	30.9	21.0	NA
Computer and related activities	72	5.6	10.1	7.1	9.3	8.6	14.0	6.2
Software consultancy and supply	722	NA	9.8	5.1	NA	6.5	12.9	NA
Other computer and related activities nec	72 (minus 722)	NA	0.3	2.0	NA	2.1	1.2	NA
R&D	73	NA	6.4	0.1	14.1	18.9	0.0	NA
Other business activities	74	2.2	6.3	5.0	3.9	3.4	7.0	1.0
Community, social, and personal services.....	75–99	NA	0.7	0.5	NA	2.3	0.1	0.7

Share of business expenditures for R&D, by industry and selected country/economy: 2003 or 2004

(Percent)

Industry	ISIC	France (2003)	Germany (2004)	Ireland (2004)	Italy (2004)	Japan (2003)	South Korea (2004)	Netherlands (2004)
All business enterprise.....	na	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Manufacturing	15–37	86.3	91.2	60.9	74.8	88.9	88.0	77.4
Food products, beverages, and tobacco	15–16	2.1	0.7	3.5	1.9	2.8	1.2	4.5
Textiles, textile products, leather, and footwear	17–19	0.6	0.4	0.5	1.4	0.3	0.5	0.4
Wood, paper, printing, and publishing	20–22	0.4	0.5	0.9	0.3	1.1	0.2	1.0
Chemical, rubber, plastics, and fuel products	23–25	24.5	18.3	20.8	15.8	17.9	8.9	25.7
Coke, refined petroleum products, and nuclear fuel	23	0.9	0.1	0.0	0.1	0.4	0.8	0.1
Chemicals and chemical products	24	20.1	16.4	19.1	13.2	15.1	6.8	24.9
Chemicals excluding pharmaceuticals	24 (minus 2423)	6.3	8.0	1.8	5.2	7.6	5.0	14.8
Pharmaceuticals	2423	13.8	8.4	17.4	8.0	7.5	1.8	10.0
Rubber and plastics products	25	3.6	1.8	1.8	2.5	2.5	1.3	0.8
Other nonmetallic mineral products	26	1.0	0.9	0.9	0.8	1.0	0.7	0.6
Basic metals	27	1.1	0.8	0.1	0.5	2.2	2.0	1.0
Fabricated metal products (excluding machinery and equipment)	28	0.9	1.5	0.7	0.9	0.7	0.5	0.7
Machinery and equipment, instruments, and transportation equipment	29–35	54.8	67.8	32.6	52.4	62.0	73.7	43.2
Machinery and equipment nec	29	4.8	10.0	3.3	11.2	7.7	4.8	10.0
Office, accounting, and computing machinery	30	1.0	1.4	4.4	0.6	12.7	1.0	23.8
Electrical machinery and apparatus nec	31	3.7	2.8	8.2	2.2	8.4	1.4	1.4
Radio, TV, and communication equipment	32	12.8	9.2	6.1	9.8	13.1	47.4	1.8
Instruments, watches, and clocks	33	6.6	7.0	10.2	7.1	4.3	1.6	2.6
Motor vehicles	34	14.7	32.2	0.3	11.1	15.1	14.7	2.2
Other transportation equipment	35	11.1	5.1	0.2	10.4	0.7	2.9	1.4
Building and repairing ships and boats	351	0.2	0.1	0.0	0.2	0.1	1.5	0.1
Aircraft and spacecraft	353	10.5	4.5	0.2	9.3	0.5	1.2	1.2
Railroad and other transportation equipment nec	352+359	0.4	0.4	0.0	0.9	0.2	0.3	0.1
Furniture, manufacturing nec	36	0.9	0.2	0.9	0.7	0.8	0.2	0.2
Recycling	37	0.0	0.0	NA	0.0	NA	0.0	0.0
Electricity, gas, and water	40–41	1.8	0.2	NA	0.3	0.7	1.1	0.5
Construction	45	0.4	0.1	NA	0.1	1.2	4.0	1.3
Services	50–99	9.4	8.3	38.7	24.4	9.1	6.9	18.3
Wholesale and retail trade, repairs	50–52	0.0	NA	0.3	3.0	0.7	0.1	4.5
Hotels and restaurants	55	0.0	NA	0.0	0.0	NA	0.0	NA
Transport and storage	60–63	NA	1.1	0.0	0.3	0.2	0.0	0.6
Post and telecommunications	64	3.9	NA	1.3	2.2	NA	1.4	0.2
Post and courier activities	641	NA	NA	0.0	0.0	NA	0.0	NA
Telecommunications	642	3.8	NA	1.3	2.2	NA	1.4	0.2
Financial intermediation	65–67	NA	NA	0.0	2.5	0.0	0.0	2.8
Real estate, renting, and business activities	70–74	5.5	6.7	37.0	16.3	8.2	5.1	10.1
Computer and related activities	72	4.2	NA	35.2	3.5	2.1	3.6	3.3
Software consultancy and supply	722	3.8	NA	33.9	3.2	NA	3.1	3.0
Other computer and related activities nec	72 (minus 722)	0.4	NA	1.3	0.4	NA	0.5	0.3
R&D	73	NA	NA	0.9	8.2	5.8	0.3	3.3
Other business activities	74	1.3	NA	0.9	4.5	0.2	1.3	3.5
Community, social, and personal services	75–99	NA	NA	0.2	0.1	NA	0.2	0.2

Share of business expenditures for R&D, by industry and selected country/economy: 2003 or 2004

(Percent)

Industry	ISIC	Norway (2004)	Poland (2004)	Spain (2004)	Sweden (2003)	United Kingdom (2004)	United States (2004)
All business enterprise.....	na	100.0	100.0	100.0	100.0	100.0	100.0
Manufacturing	15–37	49.4	63.6	68.7	87.9	76.7	71.5
Food products, beverages, and tobacco.....	15–16	5.1	1.6	3.5	0.6	1.9	1.3
Textiles, textile products, leather, and footwear.....	17–19	0.6	1.1	1.8	0.1	0.2	0.3
Wood, paper, printing, and publishing	20–22	3.1	2.1	1.2	2.1	0.3	1.2
Chemical, rubber, plastics, and fuel products.....	23–25	9.1	17.3	19.6	21.8	30.6	20.4
Coke, refined petroleum products, and nuclear fuel.....	23	0.0	1.8	0.9	0.2	1.8	0.8
Chemicals and chemical products.....	24	8.6	13.4	16.8	21.1	28.2	18.8
Chemicals excluding pharmaceuticals.....	24 (minus 2423)	4.9	4.0	4.7	1.6	4.2	3.6
Pharmaceuticals	2423	3.6	9.3	12.1	19.5	24.0	15.1
Rubber and plastics products.....	25	0.5	2.1	1.8	0.4	0.5	0.9
Other nonmetallic mineral products.....	26	0.5	1.0	1.5	0.3	0.5	0.4
Basic metals.....	27	2.7	1.1	1.8	1.7	0.3	0.3
Fabricated metal products (excluding machinery and equipment).....	28	1.4	0.6	2.1	0.6	0.6	0.7
Machinery and equipment, instruments, and transportation equipment.....	29–35	25.9	37.5	36.0	60.4	42.1	41.8
Machinery and equipment nec	29	7.3	10.3	6.6	7.0	7.7	3.2
Office, accounting, and computing machinery	30	0.1	0.4	1.1	1.0	0.4	2.8
Electrical machinery and apparatus nec	31	2.0	6.1	4.6	2.1	3.1	1.3
Radio, TV, and communication equipment.....	32	6.2	2.6	2.8	22.1	6.0	13.0
Instruments, watches, and clocks.....	33	5.4	2.6	2.1	5.5	2.7	7.3
Motor vehicles.....	34	1.6	8.8	10.0	18.9	6.5	7.5
Other transportation equipment.....	35	3.2	6.6	8.9	3.8	15.7	6.9
Building and repairing ships and boats.....	351	2.8	0.9	1.3	0.1	0.7	NA
Aircraft and spacecraft.....	353	0.2	4.4	6.6	3.2	14.8	6.3
Railroad and other transportation equipment nec	352+359	0.1	1.3	1.0	0.4	0.2	NA
Furniture, manufacturing nec.....	36	1.0	1.0	0.9	0.3	0.3	0.2
Recycling.....	37	0.1	0.1	0.2	NA	0.0	NA
Electricity, gas, and water	40–41	1.6	1.1	1.2	0.7	0.3	0.1
Construction	45	1.7	3.4	2.1	0.2	0.3	0.7
Services	50–99	35.2	24.7	25.6	10.4	21.1	28.5
Wholesale and retail trade, repairs.....	50–52	4.1	2.6	2.3	0.0	0.9	14.9
Hotels and restaurants	55	0.0	0.0	0.4	0.0	NA	NA
Transport and storage.....	60–63	1.0	3.3	0.9	0.1	0.1	0.2
Post and telecommunications.....	64	3.6	3.2	5.6	1.5	4.6	NA
Post and courier activities	641	0.0	0.0	0.0	NA	NA	NA
Telecommunications	642	3.6	3.2	5.6	NA	NA	1.0
Financial intermediation	65–67	3.4	1.5	1.4	1.3	NA	0.8
Real estate, renting, and business activities.....	70–74	23.1	5.2	13.0	6.5	15.3	NA
Computer and related activities.....	72	12.2	2.8	6.6	2.6	8.2	13.5
Software consultancy and supply	722	9.2	2.8	5.6	1.6	NA	7.9
Other computer and related activities nec	72 (minus 722)	3.0	0.0	0.9	1.0	NA	5.6
R&D	73	3.7	1.6	0.2	3.7	4.6	5.5
Other business activities	74	7.2	0.8	6.2	0.3	2.4	2.8
Community, social, and personal services.....	75–99	0.0	9.0	2.0	0.9	0.3	NA

na = not applicable; NA = not available

EU = European Union; ISIC = International Standard Industrial Classification; nec = not elsewhere classified; UK = United Kingdom

NOTES: Because Organisation for Economic Co-operation and Development (OECD) and National Science Foundation (NSF) adjust country data to achieve internationally comparable estimates, data may differ from individual countries' survey estimates. Detail may not add to total because of rounding.

SOURCES: OECD, ANBERD database, http://www1.oecd.org/dsti/sti/stat-ana/stats/eas_anb.htm, accessed 1 March 2007; and NSF, special tabulations.

Appendix table 4-43

R&D expenditures by majority-owned affiliates of foreign companies in United States, by country/region of ultimate beneficial owner: 1980 and 1987–2004

(Millions of current U.S. dollars)

R&D expenditure	1980	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
All countries.....	1,517	4,497	5,485	6,720	8,511	9,127	10,745	11,262	12,671	14,846	15,641	17,216	22,375	24,027	26,180	26,463	27,507	29,803	29,900
Canada.....	113	D	D	D	D	D	D	D	D	1,337	1,452	1,668	2,352	2,385	3,693	2,136	1,599	1,380	1,458
Europe.....	1,217	3,458	4,241	5,414	6,762	7,275	8,325	8,628	9,487	11,442	11,535	12,327	16,425	18,055	18,634	19,973	20,532	22,518	22,648
France.....	39	332	402	510	766	913	1,230	1,190	1,383	1,529	1,680	1,783	1,881	2,434	2,596	2,662	2,860	3,777	3,738
Germany.....	281	824	963	1,216	1,435	1,596	1,855	2,003	2,147	3,563	2,747	2,923	5,381	6,135	5,603	5,686	5,863	5,976	5,929
Italy.....	D	D	73	93	151	143	91	132	157	172	D	D	D	294	D	D	261	225	221
Netherlands.....	D	540	615	690	757	642	685	674	719	786	937	990	964	1,296	1,421	1,660	1,696	1,612	1,316
Sweden.....	D	124	160	205	271	225	322	180	263	D	D	687	713	428	373	465	270	261	271
Switzerland.....	329	D	D	1,060	1,455	1,637	1,873	2,117	2,127	2,490	2,699	2,369	3,076	3,008	2,922	3,107	2,920	3,791	4,004
United Kingdom.....	247	790	1,085	1,568	1,809	1,987	2,090	2,139	2,428	2,316	2,575	2,984	3,720	3,678	4,632	4,819	5,427	5,723	5,924
Asia/Pacific.....	D	179	345	412	796	834	1,080	1,232	1,397	1,611	2,116	2,642	2,961	2,820	2,864	2,946	3,413	3,763	3,725
Japan.....	D	133	282	369	709	741	938	1,112	1,200	1,259	1,531	2,036	2,584	2,535	2,644	2,719	3,159	3,470	3,413
Latin America/OWH.....	155	329	302	352	314	330	534	D	610	317	364	373	396	564	735	1,126	1,066	D	D
Middle East.....	2	14	9	10	9	9	20	38	62	72	100	103	132	D	D	177	175	D	D
Africa.....	D	D	D	D	D	D	4	5	2	D	D	D	D	D	D	36	33	31	36

D = suppressed to avoid disclosure of confidential information

OWH = other Western Hemisphere

NOTES: Preliminary estimates for 2004. Data for majority-owned (>50%) nonbank U.S. affiliates of foreign parent companies. Data for 1980 and 1987–96 for R&D funded by affiliates; 1997 to latest data for R&D performed by affiliates. Manufacturing data exclude petroleum manufacturing before 1997. Total R&D funded based on R&D spending according to funding source. Total R&D performed refers to R&D expenditures according to who conducts R&D activity, whether for performer or for others under contract, and excludes R&D expenditures conducted by others under contract. Ultimate beneficial owner is person proceeding up U.S. affiliate's ownership chain beginning with and including foreign parent not owned >50% by another person.

SOURCE: Bureau of Economic Analysis, Survey of Foreign Direct Investment in the United States (annual series), <http://www.bea.gov/bea/di/di1fdiop.htm>, accessed 20 April 2007.

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Appendix table 4-44

R&D performed by majority-owned affiliates of foreign companies in United States, by NAICS industry of affiliate: 1997–2004

(Millions of current U.S. dollars)

Industry/sector	NAICS code	1997	1998	1999	2000	2001	2002	2003	2004
All industries.....	na	17,216	22,375	24,027	26,180	26,463	27,507	29,803	29,900
Manufacturing.....	31–33	14,270	18,788	19,991	20,990	20,054	20,128	20,988	20,891
Food.....	311	239	224	205	200	197	368	166	176
Printing and related support activities.....	323	34	42	76	54	43	39	50	D
Petroleum and coal products.....	324	272	479	D	D	D	D	D	D
Chemicals.....	325	6,754	7,770	7,679	7,341	7,563	7,610	9,957	10,045
Basic chemicals.....	3251	617	623	832	D	D	608	589	595
Pharmaceuticals and medicines.....	3254	5,304	6,381	6,191	5,943	6,124	6,373	8,505	8,605
Other chemicals.....	325 (minus 3251, 3254)	833	766	656	NA	NA	629	863	845
Plastics and rubber products.....	326	331	349	372	301	305	275	423	423
Nonmetallic mineral products.....	327	214	146	172	199	206	204	198	201
Primary metals.....	331	60	65	61	67	D	46	28	81
Fabricated metal products.....	332	203	181	149	213	D	208	165	157
Machinery.....	333	721	677	898	1,748	D	1,681	1,572	1,547
Agriculture, construction, and mining machinery.....	3331	103	69	290	237	201	387	361	220
Industrial machinery.....	3332	83	90	D	119	D	192	223	273
Other machinery.....	333 (minus 3331, 3332)	535	518	D	1,392	1,408	1,103	988	1,054
Computer and electronic products.....	334	3,413	4,487	5,031	6,152	4,867	4,985	3,340	3,279
Computers and peripheral equipment.....	3341	120	324	D	D	104	D	145	144
Communications equipment.....	3342	2,243	3,045	3,431	4,607	2,998	2,055	1,403	1,418
Semiconductors and other electronic components.....	3344	586	635	917	1,003	1,077	D	444	369
Navigational, measuring, and other instruments.....	3345	NA	NA	NA	NA	NA	1,734	1,278	1,254
Other electronic products.....	334 (minus 3341, 3342, 3344, 3345)	NA	NA	NA	NA	NA	42	70	94
Electrical equipment, appliances, and components.....	335	781	885	1,195	823	875	380	336	238
Transportation equipment.....	336	641	2,762	3,204	3,344	3,193	3,302	3,669	3,728
Motor vehicles, bodies, and trailers.....	3361, 3362, 3363	500	2,555	D	3,082	2,910	3,041	3,386	3,307
Other transportation equipment.....	336 (minus 3361, 3362, 3363)	141	207	D	262	283	261	283	421
Other manufacturing.....	607	721	NA	NA	NA	NA	708	681	666
Wholesale trade.....	42	D	D	D	D	D	4,855	6,030	6,113
Motor vehicles and motor vehicle parts and supplies.....	4211	NA	NA	NA	NA	NA	337	466	527
Electrical goods.....	4216	NA	NA	NA	NA	NA	1,079	1,554	1,536
Petroleum and petroleum products.....	4227	NA	NA	NA	NA	NA	D	D	D
Information.....	51	260	329	548	790	D	803	852	898
Publishing industries.....	511	D	D	D	D	D	763	632	591
Motion picture and sound recording industries.....	512	5	1	*	*	*	3	1	*
Broadcasting and telecommunications.....	513	7	6	D	D	13	11	9	D
Information services and data processing services.....	514	D	D	D	D	180	26	210	D
Finance and insurance (except depository institutions).....	52	12	D	D	D	D	D	13	10
Professional, scientific, and technical services.....	54	597	685	836	828	804	1,119	1,379	1,442
Architectural, engineering, and related services.....	5413	12	13	36	18	13	86	75	68
Computer systems design and related services.....	5415	281	333	315	314	204	171	278	266
Management, scientific, and technical consulting.....	5416	*	*	0	0	D	3	3	0
Other professional, scientific, and technical services.....	54 (minus 5413, 5415, 5416)	303	339	485	495	D	859	1,023	1,108

na = not applicable; D = suppressed to avoid disclosure of confidential information; * = ≤\$500,000; NA = not available

NAICS = North American Industry Classification System

NOTES: Preliminary estimates for 2004. Data for majority-owned (>50%) nonbank U.S. affiliates of foreign parent companies. Data exclude expenditures for R&D conducted by others under contract.

SOURCE: Bureau of Economic Analysis, Survey of Foreign Direct Investment in the United States (annual series), <http://www.bea.gov/bea/di/di1fdiop.htm>, accessed 20 April 2007.

Appendix table 4-45

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**R&D performed abroad by majority-owned foreign affiliates of U.S. parent companies,
by country/economy/region: 2002–04**

(Millions of current U.S. dollars)

Country/economy/region	2002	2003	2004
All countries.....	21,063	22,793	27,529
Canada.....	2,274	2,444	2,702
Europe.....	13,453	14,890	18,148
Austria.....	52	34	134
Belgium.....	502	463	628
Czech Republic.....	11	18	20
Denmark.....	D	60	143
Finland.....	72	102	106
France.....	1,690	1,777	1,854
Germany.....	3,598	3,907	4,693
Greece.....	15	16	8
Hungary.....	19	15	25
Ireland.....	D	583	876
Italy.....	548	625	727
Luxembourg.....	D	91	101
Netherlands.....	419	513	533
Norway.....	35	21	33
Poland.....	29	37	38
Portugal.....	29	21	9
Russia.....	2	1	17
Spain.....	209	290	327
Sweden.....	1,317	1,398	1,525
Switzerland.....	392	523	868
Turkey.....	13	17	12
United Kingdom.....	3,856	4,368	5,462
Other.....	9	8	14
Latin America/OWH.....	785	680	882
Argentina.....	24	22	23
Brazil.....	305	316	340
Chile.....	6	9	9
Colombia.....	10	7	4
Costa Rica.....	7	6	5
Mexico.....	280	D	D
Venezuela.....	42	12	14
Africa.....	29	31	36
Egypt.....	5	4	3
South Africa.....	D	24	30
Middle East.....	736	687	826
Israel.....	736	687	824
Asia and Pacific.....	3,786	4,062	4,934
Australia.....	310	420	471
China.....	645	565	622
Hong Kong.....	D	227	220
India.....	75	81	163
Indonesia.....	3	4	4
Japan.....	1,541	1,649	1,742
Malaysia.....	D	251	301
New Zealand.....	6	9	25
Philippines.....	50	52	44
Singapore.....	398	514	711
South Korea.....	169	202	246
Taiwan.....	69	64	363

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**R&D performed abroad by majority-owned foreign affiliates of U.S. parent companies,
by country/economy/region: 2002–04**

(Millions of current U.S. dollars)

Country/economy/region	2002	2003	2004
Thailand	19	24	23
Other	1	*	*
EU	12,941	14,249	17,217
OPEC	45	17	21

D = suppressed to avoid disclosure of confidential information; * = ≤\$500,000

EU = European Union; OPEC = Organization of the Petroleum Exporting Countries; OWH = other Western Hemisphere

NOTES: Data for majority-owned (> 50%) nonbank foreign affiliates of nonbank U.S. parents. Data include R&D expenditures performed by affiliates, whether for themselves or for others under contract. Data exclude R&D expenditures by others for affiliates under contract. Manufacturing data exclude petroleum manufacturing before 1999. EU includes 15 countries for 2002 and 2003; 25 countries in 2004. Preliminary estimates for 2004.

SOURCE: Bureau of Economic Analysis, Survey of U.S. Direct Investment Abroad (annual series), <http://www.bea.gov/beat/di/di1usdop.htm>, accessed 20 April 2007.

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R&D performed abroad by majority-owned foreign affiliates of U.S. parent companies, by selected NAICS industry of affiliate: 2002-04

(Millions of current U.S. dollars)

Industry/sector	2002	2003	2004
All industries.....	21,063	22,793	27,529
Mining.....	12	11	8
Oil and gas extraction.....	8	5	3
Other.....	4	6	4
Utilities.....	1	2	2
Manufacturing.....	18,736	19,819	23,288
Food.....	341	420	634
Beverages and tobacco products.....	D	8	23
Textiles, apparel, and leather products.....	56	61	68
Wood products.....	1	8	1
Paper.....	81	73	88
Printing and related support activities.....	2	9	11
Petroleum and coal products.....	D	44	43
Chemicals.....	5,141	5,528	6,254
Basic chemicals.....	117	115	147
Resins and synthetic rubber, fibers, and filaments.....	218	215	242
Pharmaceuticals and medicines.....	4,230	4,630	5,302
Soap, cleaning compounds, and toilet preparations.....	265	181	186
Other.....	311	386	377
Plastics and rubber products.....	316	290	293
Nonmetallic mineral products.....	66	54	378
Primary and fabricated metals.....	180	228	197
Primary metals.....	32	35	40
Fabricated metal products.....	148	193	157
Machinery.....	634	783	791
Agriculture, construction, and mining machinery.....	173	220	230
Industrial machinery.....	128	131	118
Other.....	334	433	443
Computers and electronic products.....	4,975	4,796	5,283
Computers and peripheral equipment.....	388	402	479
Communications equipment.....	3,131	2,987	3,179
Audio and video equipment.....	67	67	D
Semiconductors and other electronic components.....	1,043	949	1,057
Navigational, measuring, and other instruments.....	346	391	500
Magnetic and optical media.....	0	0	D
Electrical equipment, appliances, and components.....	425	498	551
Transportation equipment.....	5,964	6,455	7,741
Motor vehicles, bodies and trailers, and parts.....	5,553	5,928	7,161
Other.....	410	527	579
Furniture and related products.....	57	27	44
Miscellaneous manufacturing.....	432	535	887
Wholesale trade.....	610	692	1,205
Professional and commercial equipment and supplies.....	233	295	724
Other durable goods.....	67	70	*
Petroleum and petroleum products.....	1	2	136
Other nondurable goods.....	309	325	345
Information.....	591	818	843
Publishing industries.....	556	773	781
Motion picture and sound recording industries.....	*	*	0
Broadcasting and telecommunications.....	11	15	42
Broadcasting, cable networks, and program distribution.....	0	1	0
Telecommunications.....	11	15	42
Information services and data processing services.....	24	29	20
Finance (except depository institutions) and insurance.....	14	1	1
Finance, except depository institutions.....	13	1	1
Securities, commodity contracts, and other intermediation and related activities.....	13	*	1
Other finance, except depository institutions.....	0	*	0
Insurance carriers and related activities.....	1	0	*
Professional, scientific, and technical services.....	1,019	1,351	2,120
Architectural, engineering, and related services.....	120	51	152

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R&D performed abroad by majority-owned foreign affiliates of U.S. parent companies, by selected NAICS industry of affiliate: 2002–04

(Millions of current U.S. dollars)

Industry/sector	2002	2003	2004
Computer systems design and related services	447	532	888
Management, scientific, and technical consulting	23	26	97
Advertising and related services	1	2	0
Other	428	741	982
Other industries	80	98	64
Agriculture, forestry, fishing, and hunting	D	D	D
Construction	0	*	8
Retail trade	D	8	4
Transportation and warehousing	1	*	*
Real estate and rental and leasing	2	2	2
Real estate	0	0	0
Rental and leasing (except real estate)	2	2	2
Management of nonbank companies and enterprises	42	D	D
Administration, support, and waste management	6	4	5
Health care and social assistance	*	*	0
Accommodation and food services	3	3	*
Accommodation	0	0	0
Food services and drinking places	3	3	*
Miscellaneous services	5	6	7

D = suppressed to avoid disclosure of confidential information; * = ≤\$500,000

NAICS = North American Industry Classification System

NOTES: Data for majority-owned (> 50%) nonbank foreign affiliates of nonbank U.S. parents. Data include R&D expenditures performed by affiliates, whether for themselves or for others under contract. Data exclude R&D expenditures by others for affiliates under contract. Preliminary estimates for 2004.

SOURCE: Bureau of Economic Analysis, Survey of U.S. Direct Investment Abroad (annual series), <http://www.bea.gov/bea/di/di1usdop.htm>, accessed 20 April 2007.

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R&D performed in United States by U.S. multinational corporation parent companies, by NAICS industry: 1999–2004

(Millions of current U.S. dollars)

Industry/sector	NAICS code	1999	2000	2001	2002	2003	2004
All industries.....	na	126,291	135,467	143,017	136,977	139,884	152,384
Mining.....	21	212	329	411	274	472	D
Oil and gas extraction.....	211	53	46	49	33	25	D
Other.....	na	159	284	362	241	447	447
Utilities.....	22	81	108	59	53	60	18
Manufacturing.....	31–33	104,842	109,744	115,118	110,062	112,681	120,851
Food.....	311	934	890	914	1,370	1,367	1,400
Beverages and tobacco products.....	312	501	467	469	D	448	452
Textiles, apparel, and leather products.....	313	275	248	125	D	85	102
Wood products.....	321	31	D	D	78	84	105
Paper.....	322	1,478	1,498	1,358	1,376	1,325	1,336
Printing and related support activities.....	323	129	148	D	157	174	220
Petroleum and coal products.....	324	990	977	1,002	1,153	1,266	1,251
Chemicals.....	325	28,198	29,212	31,927	32,273	35,500	40,270
Basic chemicals.....	3251	1,627	1,569	1,742	1,456	1,502	1,881
Resins and synthetic rubber, fibers and filaments.....	3252	2,784	2,963	2,972	2,530	2,553	2,392
Pharmaceuticals and medicines.....	3254	18,382	20,591	23,169	24,279	26,471	31,046
Soap, cleaning compounds, and toilet preparations.....	3256	1,957	2,249	2,153	1,768	2,683	2,584
Other chemicals.....	na	3,449	1,841	1,892	2,239	2,292	2,368
Plastics and rubber products.....	326	1,031	955	929	937	978	925
Nonmetallic mineral products.....	327	371	406	339	373	435	426
Primary and fabricated metals.....	na	1,320	1,417	1,038	1,340	1,412	1,211
Primary metals.....	331	760	818	484	498	501	472
Fabricated metal products.....	332	560	600	554	841	911	739
Machinery.....	333	5,252	7,196	8,561	8,405	5,431	5,780
Agriculture, construction, and mining machinery.....	3331	1,340	1,343	1,484	1,733	1,700	1,722
Industrial machinery.....	3332	1,250	1,607	1,579	1,583	1,469	1,652
Other machinery.....	na	2,662	4,247	5,497	5,088	2,263	2,405
Computers and electronic products.....	334	30,298	35,616	38,356	33,948	33,255	35,810
Computers and peripheral equipment.....	3341	5,659	6,952	7,727	7,065	7,064	7,371
Communications equipment.....	3342	13,276	14,614	14,526	11,497	10,359	10,473
Audio and video equipment.....	3343	407	436	359	D	D	433
Semiconductors and other electronic components.....	3344	8,997	10,252	11,114	10,620	11,508	12,369
Navigational, measuring, and other instruments.....	3345	1,579	2,960	4,158	4,244	3,824	D
Magnetic and optical media.....	3346	381	402	473	D	D	D
Electrical equipment, appliances, and components.....	335	2,958	2,511	2,008	1,729	1,350	1,266
Transportation equipment.....	336	29,162	25,834	25,147	23,167	25,565	25,795
Motor vehicles, bodies and trailers, and parts.....	3361, 3362, 3363	17,513	16,223	18,183	16,535	17,251	14,662
Other transportation equipment.....	na	11,649	9,611	6,964	6,632	8,314	11,133
Furniture and related products.....	337	90	D	128	130	116	106
Miscellaneous manufacturing.....	339	1,826	2,176	2,570	3,067	3,890	4,397
Wholesale trade.....	42	4,000	3,755	4,032	2,798	2,850	D
Professional and commercial equipment and supplies.....	4214	2,635	2,404	2,489	1,388	1,164	D
Petroleum and petroleum products.....	4227	D	231	238	218	195	78
Information.....	51	6,763	8,251	9,514	9,679	9,933	14,003
Publishing industries.....	511	4,050	5,510	6,452	6,718	7,202	11,018
Motion picture and sound recording industries.....	512	D	12	12	27	30	18
Broadcasting and telecommunications.....	513	869	820	796	625	442	486
Broadcasting, cable networks, and program distribution.....	5131, 5132	D	14	14	37	72	203
Telecommunications.....	5133	D	806	782	588	369	283
Information services and data processing services.....	514	D	1,909	2,254	2,308	2,259	2,481
Finance (except depository institutions) and insurance.....	52	315	510	617	560	369	350
Finance (except depository institutions).....	na	240	458	477	430	249	183
Securities, commodity contracts, and related activities.....	523	D	254	D	290	126	D
Other finance (except depository institutions).....	na	D	204	D	140	123	D
Insurance carriers and related activities.....	524	75	52	141	130	120	167
Professional, scientific, and technical services.....	54	8,522	10,042	10,348	10,479	10,560	12,787
Architectural, engineering, and related services.....	5413	49	24	18	D	D	91
Computer systems design and related services.....	5415	7,453	8,359	8,929	8,917	8,920	8,689
Management, scientific, and technical consulting.....	5416	D	D	D	533	554	580

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R&D performed in United States by U.S. multinational corporation parent companies, by NAICS industry: 1999–2004

(Millions of current U.S. dollars)

Industry/sector	NAICS code	1999	2000	2001	2002	2003	2004
Advertising and related services	5418	D	D	D	D	D	1
Other professional, scientific, and technical services	na	716	874	802	978	982	3,427
Other industries	na	1,556	2,729	2,918	3,073	2,958	1,028
Agriculture, forestry, fishing and hunting.....	11	2	2	D	D	D	32
Construction.....	23	D	D	D	D	D	3
Retail trade.....	44–45	D	D	D	D	D	53
Transportation and warehousing.....	48–49	26	8	12	5	1	*
Real estate and rental and leasing.....	53	D	6	7	D	5	D
Real estate.....	531	0	0	0	0	0	0
Rental and leasing (except real estate)	532	D	6	7	D	5	D
Management of companies and enterprises (except bank companies)....	55	0	0	0	D	0	0
Administration, support, and waste management	56	6	D	D	D	D	D
Health care and social assistance.....	62	D	30	32	31	32	32
Accommodation and food services	72	25	31	42	29	37	9
Accommodation	721	0	0	0	0	0	0
Food services and drinking places.....	722	25	31	42	29	37	9
Miscellaneous services.....	na	15	16	17	128	143	163

na = not applicable; D = suppressed to avoid disclosure of confidential information; * = ≤\$500,000

NAICS = North American Industry Classification System

NOTES: Preliminary estimates for 2004. U.S. multinational corporation (MNC) parent company is a company that resides in United States and owns or controls at least 10% of voting securities or equivalent of foreign business enterprise. Data include R&D performed by U.S. MNC parent companies, regardless of funding source, whether for performer itself or for others, including R&D performed for federal government; data exclude R&D conducted by others under contract.

SOURCE: Bureau of Economic Analysis, Survey of U.S. Direct Investment Abroad (annual series), <http://www.bea.gov/beat/di/di1usdop.htm>, accessed 20 April 2007.

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Appendix table 4-48

Company and other nonfederal funds for industrial R&D performed abroad, by industrial sector: 1985–2005

(Millions of current U.S. dollars)

Year	All industrial R&D	Manufacturing	Nonmanufacturing
1985.....	3,650	3,632	18
1986.....	4,624	4,597	27
1987.....	5,226	5,162	64
1988.....	6,208	6,062	146
1989.....	6,706	6,450	256
1990.....	7,952	7,537	415
1991.....	9,147	8,369	778
1992.....	10,063	9,228	835
1993.....	9,565	7,795	1,770
1994.....	9,395	7,895	1,500
1995.....	13,052	10,846	2,206
1996.....	14,050	11,540	2,510
1997.....	13,107	11,743	1,364
1998.....	16,008	12,658	3,350
1999.....	16,765	12,354	4,411
2000.....	17,463	12,252	5,211
2001.....	17,869	10,998	6,871
2002.....	24,868	17,093	7,775
2003.....	28,768	17,509	11,259
2004.....	31,393	26,293	5,100
2005.....	31,025	25,221	5,804

NOTES: Data for industrial R&D performed outside 50 U.S. states and District of Columbia funded by U.S. R&D-performing companies and other sources except federal government. Starting with 1999 survey, estimates based on North American Industry Classification System. In prior years, estimates based on Standard Industrial Classification System.

SOURCE: National Science Foundation, Division of Science Resources Statistics, Survey of Industrial Research and Development (annual series), <http://www.nsf.gov/statistics/srvyindustry/>, accessed 17 April 2007.

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Appendix table 4-49

(Page 1 of 2)

Company and other nonfederal funds for industrial R&D performed abroad, by NAICS industry: 2001–05

(Millions of current U.S. dollars)

Industry/sector	NAICS code	2001	2002	2003	2004	2005
All industries.....	21–23, 31–33, 42, 44–81	17,869	24,868	28,768	31,393	31,025
Manufacturing industries.....	31–33	10,998	17,093	17,509	26,293	25,221
Food.....	311	210	300	278	377	488
Beverage and tobacco products.....	312	0	D	D	D	D
Textiles, apparel, and leather.....	313–16	26	25	31	63	89
Wood products.....	321	D	D	7	1	D
Paper, printing, and support activities.....	322, 323	D	544	694	620 i	84
Petroleum and coal products.....	324	D	16	20	25	18
Chemicals.....	325	2,328	3,989	4,492	8,893	8,133
Basic chemicals.....	3251	152	249	230	436	287
Resin, synthetic rubber, fibers, and filament.....	3252	D	366	385	411	385
Pharmaceuticals and medicines.....	3254	1,720	3,268	3,751	7,654	6,872
Other chemicals.....	Other 325	D	107	126	392	589
Plastics and rubber products.....	326	181	218	234	343	306
Nonmetallic mineral products.....	327	15	32	27	52	64
Primary metals.....	331	12	23	19	16	8
Fabricated metal products.....	332	61	371	311	328	174
Machinery.....	333	527	788	772	861	1,138
Computer and electronic products.....	334	2,562	3,763	2,927	7,520	8,767
Computers and peripheral equipment.....	3341	478 i	383 i	172	3,842	3,695
Communications equipment.....	3342	633	969	983	900	1,039
Semiconductor and other electronic components.....	3344	852	1,647	1,006	1,594	2,471
Navigational, measuring, electromedical, and control instruments.....	3345	586	756	758	1,000	1,392 i
Other computer and electronic products.....	Other 334	12	7	9	184	170
Electrical equipment, appliances, and components.....	335	418 i	279	306	409	369
Transportation equipment.....	336	2,832	5,160	5,314	6,302	4,989
Motor vehicles, trailers, and parts.....	3361–63	D	4,598	4,680	5,429	3,969
Aerospace products and parts.....	3364	138	552	624	D	1,014
Other transportation equipment.....	Other 336	D	10	9	D	6 i
Furniture and related products.....	337	D	*	D	D	4
Miscellaneous manufacturing.....	339	1,226	1,578	2,076	480	582
Medical equipment and supplies.....	3391	1,150	1,472	1,963	375	497
Other miscellaneous manufacturing.....	Other 339	76	106	113	105	85
Nonmanufacturing industries.....	21–23, 42, 44–81	6,871	7,775	11,258	5,100	5,804
Mining, extraction, and support activities.....	21	37	48	46	50	53
Utilities.....	22	0	D	D	5	10
Construction.....	23	D	D	D	13	D
Wholesale trade.....	42	NA	NA	7,521	140	476
Retail trade.....	44, 45	NA	NA	299	26	110
Transportation and warehousing.....	48, 49	0	0	D	D	D
Information.....	51	1,672	1,806	2,074	2,591	2,853
Publishing.....	511	983	D	1,359	1,867	1,983
Newspaper, periodical, book, and database.....	5111	8	D	24	28 i	29
Software.....	5112	975	1,058	1,336	1,840	1,954
Broadcasting and telecommunications.....	513	D	D	D	29	NA
Telecommunications.....	5133	D	D	D	D	NA
Other broadcasting and telecommunications.....	Other 513	NA	NA	0	D	NA
Telecommunications.....	517	NA	NA	NA	NA	156
Wired and wireless (except satellite) telecommunications carriers.....	5171, 5172	NA	NA	NA	NA	156
Satellite telecommunications.....	5174	NA	NA	NA	NA	0
Other telecommunications.....	Other 517	NA	NA	NA	NA	0
Internet service providers, Web search portals, and data processing services.....	518	NA	NA	NA	NA	699
Internet service providers and Web search portals.....	5181	NA	NA	NA	NA	49
Data processing, hosting, and related services.....	5182	NA	NA	NA	NA	649
Other information.....	Other 51	D	D	D	695	15
Finance, insurance, and real estate.....	52, 53	24	113	72	76	87
Professional, scientific, and technical services.....	54	881	964	1,145	1,993	1,951
Architectural, engineering, and related services.....	5413	78	D	98	459	138

Appendix table 4-49

(Page 2 of 2)

Company and other nonfederal funds for industrial R&D performed abroad, by NAICS industry: 2001–05

(Millions of current U.S. dollars)

Industry/sector	NAICS code	2001	2002	2003	2004	2005
Computer systems design and related services	5415	302	600	592	908	1,311
Scientific R&D services.....	5417	488	297	449	572	485
Other professional, scientific, and technical services	Other 54	12	D	5	55 i	16
Management of companies and enterprises ^a	55	D	D	D	NA	NA
Health care services	621–23	D	D	3	D	11
Other nonmanufacturing	56, 61, 624, 71, 72, 81	43	65	76	204	246

D = suppressed to avoid disclosure of confidential information; i = imputation of >50%; * = ≤\$500,000; NA = not available
 NAICS = North American Industry Classification System

^aEstimates for management of companies and enterprises (NAICS 55), shown separately for 2001–03, included in other manufacturing for 2004 and 2005.

NOTES: NAICS (1997 Rev. used to classify 2001–04 statistics; 2002 Rev. used for 2005). Data for industrial R&D performed outside 50 U.S. states and District of Columbia funded by U.S. R&D-performing companies and other sources except federal government. Starting with 1999 survey, estimates based on NAICS. In prior years, estimates based on Standard Industrial Classification System.

SOURCE: National Science Foundation, Division of Science Resources Statistics, Survey of Industrial Research and Development (annual series), <http://www.nsf.gov/statistics/srvyindustry/>, accessed 17 April 2007.

Appendix table 4-50

Company-funded and -performed R&D expenditures and R&D contracted out to other organizations in United States: 1993–2005

(Millions of dollars)

Sector	Company funded and performed		Contracted out		Ratio (%)
	Current\$	Constant\$	Current\$	Constant\$	
All industries					
1993	94,591	107,028	3,462	3,917	3.7
1994	97,131	107,614	3,618	4,008	3.7
1995	108,652	117,964	5,177	5,621	4.8
1996	121,015	128,941	5,833	6,215	4.8
1997	133,611	140,034	6,000	6,288	4.5
1998	145,016	150,320	6,710	6,955	4.6
1999	161,594	165,114	9,240	9,441	5.7
2000	182,844	182,844	NA	NA	NA
2001	185,118	180,781	8,723	8,519	4.7
2002	177,467	170,335	7,846	7,531	4.4
2003	182,926	171,917	10,236	9,620	5.6
2004	188,035	171,837	12,385	11,318	6.6
2005	204,250	181,175	11,742	10,415	5.7
Manufacturing					
1993	69,901	79,091	2,339	2,647	3.3
1994	73,375	81,294	2,450	2,714	3.3
1995	81,236	88,198	3,812	4,139	4.7
1996	91,845	97,861	4,293	4,574	4.7
1997	101,202	106,067	4,143	4,342	4.1
1998	102,211	105,949	4,641	4,811	4.5
1999	101,283	103,489	4,080	4,169	4.0
2000	113,173	113,173	4,794	4,794	4.2
2001	112,733	110,092	3,957	3,864	3.5
2002	101,344	97,271	4,428	4,250	4.4
2003	107,725	101,242	5,212	4,898	4.8
2004	131,887	120,526	8,642	7,898	6.6
2005	142,555	126,450	8,926	7,918	6.3

NA = not available

NOTES: Company and other nonfederal funds for industrial R&D performance in United States. Starting with 1999 survey, estimates based on North American Industry Classification System. Prior-year estimates based on Standard Industrial Classification System. Constant dollars based on calendar-year gross domestic product price deflator (2000 = 100).

SOURCE: National Science Foundation, Division of Science Resources Statistics, Survey of Industrial Research and Development (annual series), <http://www.nsf.gov/statistics/srvyindustry/>, accessed 18 April 2007.

Appendix table 4-51

R&D expenditures contracted out in United States, by selected NAICS industry: 1999–2005

(Millions of dollars)

Industry	NAICS code	1999	2000	2001	2002	2003	2004	2005
All industries.....	21–23, 31–33, 42, 44–81	9,240	NA	8,723	7,846	10,236	12,385	11,742
Manufacturing.....	31–33	4,080	4,794	3,957	4,428	5,212	8,642	8,926
Chemicals.....	325	2,386	2,783	2,065	2,485	2,838	4,909	4,918
Pharmaceuticals and medicines.....	3254	2,274	2,658	1,899	2,368	2,716	4,656	4,587
Computer and electronic products.....	334	101	168	565	411	409	1,205	1,209
Computers and peripheral equipment.....	3341	24	44	118	83	76	140	169
Communications equipment.....	3342	D	D	80	19	72	264	137
Semiconductor and other electronic components.....	3344	33	D	86	41	123	260	235
Navigational, measuring, electromedical, and control instruments.....	3345	12	31	278	264	130	530	655
Electrical equipment, appliances, and components.....	335	D	84	60 i	35	39	49	37
Transportation equipment.....	336	812	771	708	799	1,135	1,436	1,629
Motor vehicles, trailers, and parts.....	3361–63	D	D	657	617	946	1,085	1,159
Aerospace products and parts.....	3364	80	D	D	178	182	340	450
Selected nonmanufacturing industries								
Information.....	51	504	597	577	363	813	1,427	558
Publishing.....	511	D	161	187	113	410	D	211
Software.....	5112	181	157	177	102	395	195	178
Professional, scientific, and technical services.....	54	957	1,200	1,676	1,113	1,828	1,347	1,437
Computer systems design and related services.....	5415	51	119	233	86	153	151	269
Scientific R&D services.....	5417	832	907	1,310	890	1,533	1,031	1,077

NA = not available; D = suppressed to avoid disclosure of confidential information; i = imputation of >50%

NAICS = North American Industry Classification System

NOTE: Company and other nonfederal funds for industrial R&D performance in United States.

SOURCE: National Science Foundation, Division of Science Resources Statistics, Survey of Industrial Research and Development (annual series), <http://www.nsf.gov/statistics/srvyindustry/>, accessed 18 April 2007.*Science and Engineering Indicators 2008*

U.S. trade in research, development, and testing services: affiliated and unaffiliated trade, and unaffiliated trade by selected region/country: 2001–05

(Millions of dollars)

Region/country	2001			2002			2003			2004			2005		
	Exports	Imports	Trade balance	Exports	Imports	Trade balance	Exports	Imports	Trade balance	Exports	Imports	Trade balance	Exports	Imports	Trade balance
All trade.....	6,746	2,425	4,321	8,142	3,028	5,114	9,376	4,410	4,966	8,760	4,993	3,767	10,095	6,717	3,378
Affiliated.....	5,700	1,700	4,000	7,000	2,000	5,000	8,200	3,100	5,100	7,500	3,100	4,400	8,800	4,400	4,400
Unaffiliated.....	1,046	725	321	1,142	1,028	114	1,176	1,310	-134	1,260	1,893	-633	1,295	2,317	-1,022
Unaffiliated by country															
Canada.....	82	91	-9	93	141	-48	139	188	-49	126	179	-53	106	226	-120
Europe.....	461	419	42	571	640	-69	630	798	-168	655	1,308	-653	693	1,551	-858
Belgium-Luxembourg.....	22	16	6	28	13	15	15	22	-7	20	25	-5	18	28	-10
France.....	59	30	29	61	42	19	46	45	1	58	47	11	48	63	-15
Germany.....	102	42	60	120	96	24	148	126	22	135	157	-22	141	200	-59
Italy.....	9	6	3	9	15	-6	11	14	-3	9	31	-22	8	37	-29
Netherlands.....	14	10	4	15	23	-8	14	28	-14	19	75	-56	23	106	-83
Norway.....	4	3	1	3	3	0	3	9	-6	4	11	-7	3	10	-7
Spain.....	7	6	1	7	3	4	9	3	6	11	5	6	9	21	-12
Sweden.....	15	14	1	15	19	-4	18	20	-2	18	35	-17	17	25	-8
Switzerland.....	79	42	37	127	52	75	117	48	69	136	55	81	142	88	54
United Kingdom.....	98	187	-89	142	290	-148	185	377	-192	192	744	-552	235	828	-593
Other.....	53	64	-11	44	83	-39	63	104	-41	54	122	-68	50	146	-96
Latin America/OWH.....	54	37	17	48	32	16	41	93	-52	55	93	-38	57	105	-48
South and Central America.....	40	25	15	36	27	9	33	90	-57	55	84	-29	55	95	-40
Argentina.....	7	7	0	2	7	-5	3	18	-15	9	10	-1	26	13	13
Brazil.....	7	6	1	11	6	5	5	31	-26	D	25	NA	4	35	-31
Chile.....	1	2	-1	1	1	0	*	3	NA	*	3	NA	1	4	-3
Mexico.....	13	3	10	10	6	4	16	23	-7	17	30	-13	16	21	-5
Venezuela.....	4	1	3	4	1	3	2	*	NA	D	*	NA	1	1	0
Other.....	8	6	2	9	7	2	7	13	-6	9	16	-7	7	21	-14
Other Western Hemisphere.....	14	12	2	12	5	7	8	3	5	1	9	-8	2	9	-7
Bermuda.....	13	9	4	D	3	NA	6	*	NA	*	*	NA	*	1	NA
Other.....	1	3	-2	D	2	NA	2	3	-1	1	9	-8	2	8	-6
Africa.....	60	60	0	21	48	-27	10	57	-47	10	79	-69	11	121	-110
South Africa.....	42	32	10	3	16	-13	2	7	-5	3	7	-4	3	8	-5
Other.....	19	28	-9	18	32	-14	8	49	-41	7	72	-65	8	113	-105
Middle East.....	44	28	16	57	9	48	35	16	19	65	13	52	99	23	76
Israel.....	12	23	-11	11	8	3	16	14	2	13	11	2	16	16	0
Saudi Arabia.....	19	4	15	33	*	NA	1	*	NA	2	*	NA	1	*	NA
Other.....	12	1	11	13	1	12	18	2	16	50	2	48	82	6	76
Asia/Pacific.....	338	91	247	344	158	186	313	159	154	330	221	109	323	292	31
Australia.....	19	11	8	17	12	5	12	21	-9	13	26	-13	11	29	-18
China.....	12	9	3	14	5	9	14	6	8	15	18	-3	7	22	-15
Hong Kong.....	3	1	2	3	5	-2	2	14	-12	1	16	-15	2	13	-11
India.....	8	16	-8	4	15	-11	6	18	-12	17	48	-31	18	61	-43

U.S. trade in research, development, and testing services: affiliated and unaffiliated trade, and unaffiliated trade by selected region/country: 2001–05

(Millions of dollars)

Region/country	2001			2002			2003			2004			2005		
	Exports	Imports	Trade balance	Exports	Imports	Trade balance	Exports	Imports	Trade balance	Exports	Imports	Trade balance	Exports	Imports	Trade balance
Indonesia.....	5	3	2	2	5	-3	*	D	NA	1	7	-6	1	9	-8
Japan.....	235	22	213	263	23	240	234	32	202	228	38	190	221	52	169
Malaysia.....	2	*	NA	1	1	0	2	*	NA	1	1	0	1	1	0
New Zealand.....	1	*	NA	1	3	-2	*	7	NA	1	9	-8	1	11	-10
Philippines.....	2	1	1	1	2	-1	1	1	0	1	1	0	*	2	NA
Singapore.....	5	14	-9	4	D	NA	3	16	-13	5	9	-4	21	10	11
South Korea.....	27	3	24	15	4	11	25	4	21	31	9	22	21	9	12
Taiwan.....	12	4	8	9	13	-4	10	15	-5	11	D	NA	15	27	-12
Thailand.....	4	2	2	6	2	4	2	4	-2	3	5	-2	2	6	-4
Other.....	3	6	-3	3	D	NA	1	D	NA	1	D	NA	2	39	-37
Addenda															
EU.....	358	333	25	427	544	-117	482	696	-214	498	1,201	-703	539	1,394	-855

* = ≤\$500,000; D = suppressed to avoid disclosure of confidential information; NA = not available

EU = European Union; OWH = other Western Hemisphere

SOURCE: Bureau of Economic Analysis, U.S. International Services: Cross-Border Trade 1986–2005, and Sales Through Affiliates, 1986–2004, <http://www.bea.gov/international/intlserv.htm>, accessed 10 December 2006.*Science & Engineering Indicators 2008*

Appendix table 4-53

Federal technology transfer indicators and intellectual property measures, by selected U.S. agency: FY 2002–05

Agency	2002	2003	2004	2005
Invention disclosures and patenting				
USDA				
Inventions disclosed	151	121	142	125
Patent applications filed	90	60	81	88
Patents issued	53	64	50	27
DOD				
Inventions disclosed	1,122	1,332	1,369	1,220
Patent applications filed	829	810	778	798
Patents issued	617	619	559	430
DOE				
Inventions disclosed	1,498	1,469	1,617	1,776
Patent applications filed	711	866	661	812
Patents issued	551	627	520	467
NIH/FDA				
Inventions disclosed	331	400	403	388
Patent applications filed	173	196	199	186
Patents issued	88	86	122	66
NASA				
Inventions disclosed	775	736	687	NA
Patent applications filed	166	163	154	NA
Patents issued	128	136	157	NA
Invention licenses				
USDA				
Active invention licenses	267	270	296	320
New invention licenses	26	27	29	33
DOD				
Active invention licenses	350	361	364	406
New invention licenses	39	49	360	60
DOE				
Active invention licenses	1,327	1,223	1,362	1,535
New invention licenses	206	172	168	198
NIH/FDA				
Active invention licenses	NA	NA	NA	NA
New invention licenses	231	209	276	313
NASA				
Active invention licenses	290	295	345	NA
New invention licenses	52	66	90	NA

NA = not available

DOD = Department of Defense; DOE = Department of Energy; NASA = National Aeronautics and Space Administration; NIH/FDA = National Institutes of Health/Food and Drug Administration; USDA = U.S. Department of Agriculture

SOURCES: USDA, FY 2006 Annual Reporting on Agency Technology Transfer (2006); DOD, Report to Congress on the activities of the DOD Office of Technology Transition (2006); DOE, Annual Report on Tech Transfer and Related Technology Partnering Activities at the National Laboratories and Other Facilities – Fiscal Year 2005 (2006); NASA, Annual Report on Technology Transfer, Programs, Plans, FY 2004 Activities and Achievements (2006); NIH, Office of Technology Transfer Activities, Statistical Tables (2006), http://www.ott.nih.gov/about_nih/statistics.html, accessed 28 February 2007.

Appendix table 4-54

SBIR award funding, by type of award and federal agency: FY 1983–2005

(Millions of current dollars)

FY	All	Phase I	Phase II	DOD	HHS	NASA	DOE	NSF	DHS ¹	USDA	DOT	EPA	ED	DOC
1983.....	44.5	44.5	0.0	20	7	5	5	5	na	1	*	*	*	0
1984.....	108.4	48.0	60.4	45	23	13	16	7	na	2	2	1	1	0
1985.....	199.1	69.1	130.0	78	45	29	26	10	na	3	3	2	1	0
1986.....	297.9	98.5	199.4	151	57	36	29	15	na	4	4	3	2	1
1987.....	350.5	109.6	240.9	194	67	32	28	17	na	4	3	3	2	2
1988.....	389.1	101.9	248.9	208	73	47	30	17	na	4	3	3	2	1
1989.....	431.9	107.7	321.7	233	79	52	33	19	na	4	4	3	2	1
1990.....	460.7	118.1	341.8	241	84	62	39	20	na	4	4	3	2	1
1991.....	483.1	127.9	335.9	241	93	69	39	22	na	5	6	4	3	1
1992.....	508.4	127.9	371.2	242	102	79	43	23	na	6	3	4	2	2
1993.....	698.0	154.0	490.7	385	126	86	50	29	na	7	4	5	3	2
1994.....	717.6	220.4	473.6	354	133	116	53	34	na	7	7	5	3	4
1995.....	834.5	232.2	601.9	414	181	118	70	42	na	9	10	7	3	8
1996.....	916.3	228.9	645.8	479	189	114	62	41	na	9	7	5	3	6
1997.....	1106.9	277.6	789.1	569	252	121	75	54	na	10	8	6	4	7
1998.....	1066.7	262.3	804.4	540	267	96	76	53	na	13	6	5	5	7
1999.....	1096.5	299.5	797.0	514	314	89	81	60	na	13	6	5	5	7
2000.....	1190.2	302.0	888.2	549	355	93	86	65	na	15	6	8	6	7
2001.....	1294.3	317.0	977.3	576	412	106	87	72	na	16	6	6	7	7
2002.....	1434.7	411.4	1023.3	621	487	110	96	78	na	17	6	6	8	7
2003.....	1670.3	455.3	1215.0	804	531	109	94	90	na	17	3	6	8	8
2004.....	1867.6	498.8	1368.8	929	572	106	104	90	19	19	4	8	9	9
2005.....	1865.9	461.2	1404.7	926	580	113	100	79	22	19	4	6	8	9

* = ≤\$500,000; na = not applicable

DOC = Department of Commerce; DHS = Department of Homeland Security; DOD = Department of Defense; DOE = Department of Energy; DOT = Department of Transportation; ED = Department of Education; EPA = Environmental Protection Agency; HHS = Department of Health and Human Services; NASA = National Aeronautics and Space Administration; NSF = National Science Foundation; SBIR = Small Business Innovation Research program; USDA = U.S. Department of Agriculture

¹DHS, established by Homeland Security Act of 2002 and formed in January 2003, held first SBIR competition in FY 2004.

NOTES: Agency obligations based on information from Small Business Administration (SBA). Data do not necessarily contain subsequent-year revisions and may not add to total.

SOURCE: SBA, SBIR Annual Report (annual series).

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Appendix table 4-55

Small Business Technology Transfer Program award funding, by type of award and federal agency: FY 1994–2005

(Millions of current dollars)

FY	All	Phase I	Phase II	DOD	HHS	NASA	DOE	NSF
1994.....	18.9	18.9	0.0	9	5	2	2	1
1995.....	33.8	23.0	10.8	15	9	3	5	2
1996.....	64.4	22.7	41.8	29	18	9	5	3
1997.....	69.0	24.1	44.8	37	13	12	4	3
1998.....	64.8	19.7	45.1	33	17	6	5	3
1999.....	65.0	24.3	41.0	31	20	6	5	3
2000.....	70.0	24.0	46.0	33	22	6	5	5
2001.....	71.4	25.4	46.0	27	25	6	5	8
2002.....	91.6	36.3	55.3	43	31	7	6	6
2003.....	92.1	41.1	51.0	43	31	6	6	6
2004.....	184.6	76.8	107.8	89	67	13	11	10
2005.....	220.3	74.0	146.3	114	73	13	12	9

DOD = Department of Defense; DOE = Department of Energy; HHS = Department of Health and Human Services; NASA = National Aeronautics and Space Administration; NSF = National Science Foundation

NOTES: Agency obligations based on information from Small Business Administration (SBA). Data do not necessarily contain subsequent-year revisions and may not add to total.

SOURCE: SBA, Small Business Technology Transfer Program Annual Report (annual series).

Appendix table 4-56

Advanced Technology Program projects, number of participants, and funding: FY 1990–2004

Year	Projects	SA	JV	Participants	Total	Project funding (current \$millions)					
						ATP			Industry		
						All	To JV	To SA	All	From JV	From SA
1990.....	11	6	5	35	98	46	38	8	52	45	7
1991.....	28	18	10	83	202	93	65	28	109	83	26
1992.....	21	18	3	32	97	48	19	29	49	19	30
1993.....	29	24	5	50	118	60	19	41	58	20	38
1994.....	88	50	38	211	640	309	216	93	331	233	98
1995.....	103	62	41	318	827	414	304	110	413	340	73
1996.....	8	6	2	12	37	19	9	10	18	10	8
1997.....	64	49	15	101	304	162	75	87	142	81	61
1998.....	79	52	27	168	460	235	143	92	225	157	68
1999.....	37	26	11	57	212	110	61	49	102	64	38
2000.....	54	39	15	95	274	144	70	74	130	74	56
2001.....	59	46	13	88	286	164	79	85	122	81	41
2002.....	61	51	10	79	289	156	59	97	133	61	72
2003.....	67	55	12	104	257	154	49	105	103	51	52
2004.....	59	48	11	78	270	155	62	93	115	66	49

ATP = Advanced Technology Program; JV = joint ventures; SA = single applicants

NOTES: For multiyear projects, total funding attributed to year award made. Participants include SAs, JV leaders, and JV members and exclude subcontractors and informal collaborators.

SOURCE: National Institute of Standards and Technology, ATP, special tabulations.

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