Chapter 6. Industry, Technology, and Competitiveness in the Marketplace

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Appendix table 6-1.
Real gross domestic product, for selected countries: 1960-95
(Billions of 1995 U.S. dollars)

	United States	Canada	Japan	South Korea	Austria	Belgium	Denmark	France	Germany[a]	Italy	Nether-lands	Norway	Sweden	United Kingdom
1960	2,433.07	170.88	415.98	36.12	55.01	76.32	43.97	378.74	544.64	345.35	100.42	29.26	70.36	507.23
1961	2,484.81	176.24	476.54	38.23	57.93	80.11	46.56	399.60	569.86	373.69	103.33	31.04	74.36	520.29
1962	2,634.66	188.73	510.18	39.05	59.32	84.29	49.12	426.26	596.43	396.87	107.77	31.88	77.53	527.20
1963	2,747.51	198.52	563.76	42.62	61.74	87.96	49.35	449.05	613.21	419.14	111.33	33.08	81.66	548.05
1964	2,907.69	211.76	638.25	46.74	65.47	94.08	53.76	478.32	654.06	430.86	120.90	34.74	87.23	577.85
1965	3,092.62	225.73	671.01	49.42	67.34	97.43	56.34	501.18	689.08	444.94	127.31	36.58	90.56	592.48
1966	3,292.07	241.05	742.11	55.44	71.14	100.51	57.67	527.31	708.30	471.57	130.87	37.96	92.46	603.68
1967	3,378.13	248.12	822.07	58.71	73.28	104.40	59.64	552.03	706.12	505.42	137.81	40.34	95.57	617.52
1968	3,537.77	261.40	927.04	65.36	76.56	108.79	62.01	575.54	744.63	538.50	147.04	41.25	99.05	642.68
1969	3,644.70	275.40	1,040.77	74.42	81.36	116.01	65.93	615.77	800.18	571.34	157.04	43.11	104.01	655.93
1970	3,644.92	282.55	1,142.86	80.94	87.16	123.39	67.26	651.06	840.49	601.68	166.07	43.97	110.74	670.90
1971	3,765.30	298.82	1,193.03	87.81	91.61	127.92	69.06	682.20	866.19	613.08	173.46	45.98	111.79	684.23
1972	3,969.91	315.94	1,293.40	92.04	97.30	134.68	72.70	712.43	903.01	631.02	178.85	48.36	114.34	708.19
1973	4,197.97	340.31	1,397.29	103.82	102.06	142.64	75.34	751.19	946.04	672.30	187.88	50.34	118.88	760.31
1974	4,182.80	355.29	1,380.17	112.20	106.08	148.47	74.64	774.55	947.89	703.83	195.49	52.96	122.68	747.39
1975	4,157.95	364.53	1,422.84	119.64	105.70	146.26	74.15	772.39	936.02	688.72	195.78	55.17	125.82	742.01
1976	4,390.32	386.99	1,479.40	133.72	110.53	154.41	78.95	805.17	985.85	733.47	205.11	58.92	127.15	762.61
1977	4,603.54	400.98	1,544.35	147.51	115.55	155.15	80.23	831.07	1,013.90	754.67	209.90	61.03	125.12	780.63
1978	4,834.18	419.32	1,625.77	161.36	115.62	159.39	81.41	858.92	1,044.29	782.80	214.85	63.80	127.31	807.61
1979	4,974.35	435.55	1,714.93	172.87	121.10	162.79	84.30	886.76	1,088.41	827.21	219.63	67.04	132.20	830.20
1980	4,961.34	442.02	1,763.25	168.23	124.64	169.82	83.92	901.16	1,099.08	856.42	222.28	69.86	134.40	812.25
1981	5,082.90	458.25	1,819.15	178.67	124.28	167.06	83.18	911.76	1,100.17	860.48	221.16	70.47	134.39	801.77
1982	4,973.92	443.51	1,874.76	192.23	125.61	169.83	85.69	934.97	1,089.82	864.42	218.58	70.70	135.73	815.63
1983	5,174.45	457.54	1,918.30	214.33	128.11	170.08	87.85	941.47	1,108.99	874.95	222.32	73.98	138.11	845.62
1984	5,527.51	486.40	1,993.44	232.93	129.85	173.81	91.70	953.84	1,140.20	897.42	229.63	78.23	143.70	865.27
1985	5,733.31	509.59	2,081.24	248.18	133.05	175.10	95.64	971.79	1,163.35	922.64	236.70	82.36	146.47	897.76
1986	5,905.86	526.49	2,141.50	276.86	134.62	177.96	99.12	996.26	1,190.63	948.84	243.22	85.80	149.83	936.21
1987	6,076.37	548.42	2,230.56	308.75	136.85	181.74	99.41	1,018.68	1,208.23	978.22	246.66	87.51	154.55	981.27
1988	6,307.12	575.73	2,368.74	343.55	142.41	190.69	100.57	1,064.50	1,253.21	1,016.06	253.11	87.07	158.03	1,030.37
1989	6,519.59	589.81	2,483.18	365.48	147.86	197.26	101.14	1,109.77	1,298.64	1,045.35	264.96	87.86	161.78	1,052.86
1990	6,603.82	588.43	2,609.42	400.23	154.14	204.52	102.58	1,137.60	1,372.71	1,067.96	275.84	89.50	163.99	1,057.04
1991	6,539.60	577.91	2,713.01	436.78	158.52	207.74	103.96	1,146.48	1,441.98	1,080.12	282.11	92.29	162.16	1,036.31
1992	6,717.53	582.33	2,741.60	458.91	161.75	211.25	104.20	1,159.81	1,467.42	1,086.22	287.82	95.31	159.85	1,030.82
1993	6,870.29	595.26	2,745.11	485.30	162.34	208.39	105.74	1,144.38	1,438.83	1,073.67	290.02	97.95	156.30	1,052.18
1994	7,109.43	619.49	2,758.25	526.93	167.29	213.27	110.38	1,176.72	1,470.80	1,096.49	299.85	102.88	161.52	1,092.55
1995	7,253.80	633.90	2,781.74	574.11	170.34	217.39	113.45	1,202.09	1,494.22	1,129.04	306.27	106.24	167.29	1,119.85

NOTE: Country gross domestic products were determined with 1993 purchasing power parities using the Elteto-Köves-Szulc (EKS) aggregation method, which is the method used by the Organisation for Economic Co-operation and Development (OECD) and EUROSTAT in their official statistics. For a discussion of the properties of this aggregation method, see OECD, *Purchasing Power Parities and Real Expenditures, 1993: Volume 1, EKS Results* (Paris: 1995), p. 4.

[a]German data are for the former West Germany only.

SOURCE: U.S. Bureau of Labor Statistics, Office of Productivity and Technology, "Comparative Real Gross Domestic Product Per Capita and Per Employed Person, Fourteen Countries, 1960-1995" (Washington, DC: April 1997).

See figure 6-1.

Appendix table 6-2.
Real gross domestic product per capita, for selected countries: 1960-95
(1995 U.S. dollars)

	United States	Canada	Japan	South Korea	Austria	Belgium	Denmark	France	Germany[a]	Italy	Nether-lands	Norway	Sweden	United Kingdom
1960	13,460	9,542	4,460	1,444	7,806	8,338	9,598	8,290	9,825	7,053	8,745	8,170	9,406	9,685
1961	13,523	9,646	5,065	1,484	8,175	8,723	10,094	8,656	10,144	7,602	8,879	8,599	9,889	9,853
1962	14,120	10,139	5,371	1,473	8,320	9,141	10,571	9,070	10,494	8,007	9,132	8,760	10,253	9,893
1963	14,514	10,468	5,879	1,563	8,604	9,468	10,536	9,387	10,685	8,394	9,305	9,023	10,739	10,220
1964	15,150	10,958	6,587	1,670	9,063	10,032	11,389	9,897	11,282	8,542	9,971	9,404	11,386	10,703
1965	15,913	11,471	6,851	1,722	9,262	10,294	11,843	10,275	11,755	8,752	10,356	9,824	11,710	10,901
1966	16,745	12,024	7,507	1,883	9,716	10,549	12,021	10,721	11,975	9,206	10,508	10,113	11,842	11,048
1967	16,997	12,156	8,227	1,948	9,934	10,897	12,325	11,137	11,910	9,783	10,940	10,654	12,147	11,236
1968	17,623	12,610	9,172	2,120	10,324	11,310	12,741	11,530	12,515	10,347	11,555	10,801	12,515	11,640
1969	17,978	13,097	10,172	2,359	10,934	12,027	13,474	12,238	13,322	10,908	12,199	11,194	13,050	11,827
1970	17,772	13,250	11,019	2,510	11,672	12,786	13,647	12,823	13,858	11,402	12,743	11,339	13,769	12,060
1971	18,129	13,566	11,389	2,670	12,214	13,225	13,915	13,311	14,134	11,541	13,147	11,781	13,804	12,234
1972	18,911	14,178	12,181	2,747	12,897	13,871	14,564	13,780	14,642	11,795	13,417	12,295	14,078	12,624
1973	19,807	15,085	12,859	3,044	13,453	14,646	15,002	14,413	15,265	12,477	13,981	12,711	14,610	13,523
1974	19,555	15,532	12,529	3,234	13,960	15,200	14,795	14,764	15,275	12,940	14,434	13,289	15,034	13,290
1975	19,251	15,706	12,759	3,391	13,946	14,932	14,653	14,657	15,139	12,576	14,333	13,766	15,357	13,197
1976	20,131	16,456	13,119	3,730	14,610	15,739	15,562	15,218	16,022	13,319	14,892	14,635	15,464	13,566
1977	20,898	16,850	13,561	4,051	15,268	15,796	15,768	15,638	16,513	13,655	15,149	15,095	15,163	13,893
1978	21,714	17,445	14,147	4,365	15,289	16,215	15,951	16,092	17,028	14,118	15,414	15,721	15,383	14,376
1979	22,098	17,941	14,799	4,606	16,041	16,549	16,474	16,542	17,738	14,877	15,650	16,461	15,939	14,762
1980	21,786	17,973	15,096	4,413	16,509	17,245	16,382	16,725	17,852	15,387	15,711	17,098	16,173	14,419
1981	22,099	18,404	15,462	4,614	16,420	16,956	16,239	16,828	17,836	15,428	15,523	17,189	16,151	14,228
1982	21,419	17,598	15,827	4,888	16,580	17,231	16,740	17,158	17,681	15,437	15,273	17,183	16,304	14,483
1983	22,082	17,974	16,085	5,370	16,930	17,258	17,178	17,189	18,055	15,561	15,473	17,920	16,582	14,999
1984	23,383	18,925	16,609	5,765	17,152	17,636	17,939	17,334	18,638	15,928	15,921	18,896	17,238	15,313
1985	24,038	19,644	17,236	6,082	17,557	17,762	18,701	17,578	19,064	16,330	16,338	19,833	17,541	15,838
1986	24,538	20,092	17,627	6,718	17,742	18,045	19,356	17,936	19,497	16,771	16,697	20,588	17,902	16,468
1987	25,022	20,656	18,270	7,418	18,012	18,413	19,390	18,248	19,782	17,264	16,821	20,900	18,403	17,213
1988	25,737	21,407	19,319	8,174	18,700	19,221	19,604	18,969	20,394	17,900	17,148	20,683	18,731	18,027
1989	26,354	21,542	20,169	8,610	19,306	19,849	19,705	19,669	20,924	18,392	17,847	20,785	19,049	18,356
1990	26,420	21,174	21,122	9,336	19,943	20,520	19,954	20,051	21,702	18,757	18,455	21,101	19,160	18,364
1991	25,881	20,551	21,893	10,088	20,289	20,764	20,169	20,094	22,505	18,912	18,722	21,655	18,817	17,927
1992	26,299	20,403	22,053	10,490	20,440	21,030	20,148	20,215	22,623	18,994	18,958	22,235	18,441	17,771
1993	26,613	20,564	22,019	10,981	20,315	20,666	20,380	19,849	21,956	19,035	18,968	22,716	17,927	18,082
1994	27,273	21,175	22,073	11,804	20,834	21,083	21,201	20,323	22,333	19,393	19,495	23,724	18,394	18,710
1995	27,572	21,405	22,210	12,732	21,170	21,445	21,678	20,675	22,586	19,934	19,814	24,371	18,952	19,108

NOTE: Country gross domestic products were determined with 1993 purchasing power parities using the Elteto-Köves-Szulc (EKS) aggregation method, which is the method used by the Organisation for Economic Co-operation and Development (OECD) and EUROSTAT in their official statistics. For a discussion of the properties of this aggregation method, see OECD, *Purchasing Power Parities and Real Expenditures, 1993: Volume 1, EKS Results* (Paris: 1995), p. 4.

[a]German data are for the former West Germany only.

SOURCE: U.S. Bureau of Labor Statistics, Office of Productivity and Technology, "Comparative Real Gross Domestic Product Per Capita and Per Employed Person, Fourteen Countries, 1960-1995" (Washington, DC: April 1997).

See figure 6-1.

Appendix table 6-3.
Real gross domestic product per employed person, for selected countries: 1960-95
(1995 U.S. dollars)

	United States	Canada	Japan	South Korea	Austria	Belgium	Denmark	France	Germany[a]	Italy	Nether-lands	Norway	Sweden	United Kingdom
1960	35,627	NA	9,545	NA	17,219	21,993	21,664	19,190	20,897	NA	21,801	19,090	19,461	21,030
1961	36,371	NA	10,791	NA	17,990	22,916	22,607	20,249	21,564	NA	22,111	19,940	20,401	21,350
1962	37,893	NA	11,421	NA	18,571	23,744	23,493	21,605	22,492	NA	22,609	20,362	21,155	21,527
1963	38,972	NA	12,514	5,562	19,458	24,604	23,315	22,579	23,069	NA	23,041	21,039	22,171	22,324
1964	40,361	NA	13,960	5,993	20,663	25,945	24,887	23,789	24,585	NA	24,590	22,023	23,348	23,235
1965	41,900	NA	14,452	6,022	21,393	26,766	25,613	24,849	25,755	NA	25,675	22,996	24,074	23,586
1966	43,307	NA	15,646	6,582	22,826	27,514	25,776	25,951	26,555	NA	26,190	23,761	24,543	23,975
1967	43,411	NA	16,981	6,735	23,931	28,706	26,826	27,098	27,365	NA	27,664	25,074	25,643	24,810
1968	44,526	NA	18,793	7,140	25,329	29,945	27,582	28,337	28,833	NA	29,246	25,608	26,297	25,946
1969	44,771	NA	20,895	7,905	26,936	31,398	29,065	29,862	30,509	NA	30,723	26,530	27,104	26,481
1970	44,523	NA	22,685	8,305	28,743	33,368	29,445	31,151	31,645	NA	32,109	26,631	28,305	27,162
1971	45,816	NA	23,526	8,723	29,864	34,351	30,057	32,494	32,481	NA	33,339	27,597	28,628	28,111
1972	46,925	NA	25,451	8,717	31,495	36,243	30,993	33,735	33,727	NA	34,675	28,712	29,187	28,917
1973	48,037	NA	26,799	9,320	32,477	38,057	31,718	35,084	34,953	NA	36,410	29,696	30,232	30,449
1974	46,986	NA	26,567	9,684	33,474	39,020	31,527	35,863	35,451	NA	37,521	30,836	30,592	29,860
1975	47,236	NA	27,484	10,114	33,551	39,003	31,720	36,077	35,973	NA	37,869	31,512	30,766	29,799
1976	48,300	39,289	28,308	10,650	34,881	41,409	33,178	37,315	38,090	NA	39,445	32,572	30,985	30,875
1977	48,896	39,891	29,161	11,409	36,136	41,774	33,443	38,198	39,118	NA	39,529	32,896	30,429	31,566
1978	49,245	40,339	30,326	11,962	36,074	42,871	33,584	39,284	39,965	NA	40,084	33,784	30,846	32,395
1979	49,294	40,199	31,594	12,652	37,562	43,389	34,360	40,481	40,967	NA	40,226	34,956	31,571	32,879
1980	48,926	39,625	32,153	12,295	38,535	45,308	34,369	41,070	40,737	NA	39,482	35,621	31,746	32,503
1981	49,570	39,945	32,896	12,741	38,406	45,422	34,517	41,755	40,821	41,076	39,073	35,587	31,690	33,227
1982	48,905	39,920	33,562	13,369	39,318	46,785	35,400	42,701	40,925	41,401	38,824	35,651	32,069	34,155
1983	50,221	40,918	33,779	14,776	40,479	47,337	36,184	43,058	42,246	41,826	40,275	37,437	32,556	35,575
1984	51,551	42,381	34,905	16,143	41,049	48,468	37,131	44,011	43,365	42,732	41,079	39,346	33,594	35,814
1985	52,415	43,116	36,195	16,578	41,956	48,557	37,778	44,973	43,918	43,810	41,165	40,339	33,893	36,688
1986	52,806	43,254	36,935	17,856	42,272	49,011	38,154	45,924	44,334	44,835	41,647	40,779	34,457	38,027
1987	52,978	43,870	38,090	18,879	42,991	49,805	37,938	46,807	44,666	46,373	41,525	40,752	35,260	38,970
1988	53,819	44,640	39,777	20,366	44,473	51,509	38,609	48,481	45,971	48,048	42,540	40,853	35,565	39,554
1989	54,534	44,801	40,882	20,813	45,499	52,463	39,044	49,885	46,953	49,472	43,578	42,420	35,887	39,492
1990	54,595	44,433	42,121	22,131	46,530	53,624	40,002	50,611	48,201	49,955	43,509	43,569	36,043	39,368
1991	54,571	44,475	42,955	23,468	47,103	54,396	41,154	50,951	49,402	50,176	43,738	45,272	36,183	39,508
1992	55,767	45,079	42,931	24,203	47,849	55,563	41,510	51,921	49,819	50,897	43,281	46,888	37,330	39,939
1993	56,279	45,475	42,859	25,206	48,289	55,409	42,541	51,832	49,603	51,592	43,157	48,093	38,516	41,085
1994	56,978	46,345	43,030	26,563	49,693	57,106	44,664	53,335	51,310	53,587	44,554	49,930	40,209	42,298
1995	57,333	46,693	43,377	28,174	50,746	57,977	45,166	53,843	52,462	55,841	44,776	50,511	41,013	43,137

NA = not available

NOTE: Country gross domestic products were determined with 1993 purchasing power parities using the Elteto-Köves-Szulc (EKS) aggregation method, which is the method used by the Organisation for Economic Co-operation and Development (OECD) and EUROSTAT in their official statistics. For a discussion of the properties of this aggregation method, see OECD, *Purchasing Power Parities and Real Expenditures, 1993: Volume 1, EKS Results* (Paris: 1995), p. 4.

[a]German data are for the former West Germany only.

SOURCE: U.S. Bureau of Labor Statistics, Office of Productivity and Technology, "Comparative Real Gross Domestic Product Per Capita and Per Employed Person, Fourteen Countries, 1960-1995" (Washington, DC: April 1997).

See figure 6-1.

Appendix table 6-4.
High-technology manufacturing in selected industrialized countries, value added and domestic content: 1970-95

	Total manufacturing		Aircraft		Communications		Office & computers		Drugs & medicines		High-tech manufacturing		Other manufacturing	
	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]
United States														
1970	249,584.0	39.9	NA	NA	6,664.1	46.3	3,233.6	44.0	3,425.6	51.6	NA	NA	NA	NA
1971	263,018.0	40.0	10,495.9	NA	6,992.5	47.8	3,072.0	48.3	3,795.8	53.3	24,356.2	86.7	NA	NA
1972	290,424.0	38.9	11,234.4	47.9	7,528.8	45.6	3,620.5	45.5	4,465.2	56.9	26,848.9	48.1	263,575.1	38.2
1973	323,403.0	37.4	12,165.5	42.1	8,796.2	44.3	4,022.8	44.5	4,736.4	54.2	29,721.0	44.7	293,682.0	36.8
1974	337,278.0	33.3	12,819.4	42.6	7,062.3	35.2	4,451.3	45.6	4,668.2	46.8	29,001.3	41.5	308,276.8	32.7
1975	354,689.0	34.8	13,172.8	41.3	8,791.1	43.7	4,827.9	55.9	5,408.9	49.5	32,200.7	45.0	322,488.3	34.1
1976	405,313.0	34.7	14,018.4	44.0	9,900.5	42.9	5,536.7	43.3	6,408.5	50.4	35,864.0	44.6	369,449.0	34.0
1977	462,365.0	34.5	15,814.7	47.0	12,683.5	43.4	6,661.2	40.4	6,728.6	47.7	41,888.0	44.8	420,477.0	33.8
1978	516,936.0	34.4	18,499.0	45.1	14,580.6	42.6	8,246.0	40.9	7,427.8	46.2	48,753.4	43.7	468,182.6	33.6
1979	571,281.0	33.5	20,217.6	37.7	15,332.4	38.4	9,853.0	38.3	8,099.3	48.1	53,502.2	39.3	517,778.8	33.0
1980	584,406.0	32.1	20,083.8	32.8	19,821.6	41.8	11,959.5	38.4	9,352.2	48.1	61,217.1	38.4	523,188.9	31.5
1981	652,014.0	32.7	30,723.8	46.1	23,437.1	44.2	13,745.7	39.1	10,958.3	50.3	78,864.9	44.6	573,149.1	31.6
1982	649,768.0	33.7	33,401.5	46.8	24,414.1	43.2	15,330.3	37.4	12,911.4	53.2	86,057.3	44.6	563,710.7	32.5
1983	690,088.0	33.8	37,898.5	49.4	29,013.1	45.0	17,314.5	37.7	14,703.9	54.2	98,930.0	46.1	591,158.0	32.3
1984	780,524.0	34.3	39,989.5	46.1	36,191.5	43.3	19,856.0	35.1	15,304.0	53.2	111,341.0	43.6	669,183.0	33.2
1985	802,938.0	35.0	43,277.1	45.2	40,016.8	44.5	20,101.8	35.4	17,315.7	55.7	120,711.4	44.1	682,226.6	33.8
1986	833,149.0	36.4	48,064.1	46.4	41,814.8	44.2	18,079.4	34.8	18,691.8	54.1	126,650.1	44.5	706,498.9	35.3
1987	889,047.0	36.4	47,786.5	43.4	48,234.5	51.9	17,187.1	32.5	20,683.6	54.3	133,891.7	45.6	755,155.3	35.1
1988	971,297.0	36.5	49,504.9	43.5	51,642.7	51.6	18,864.1	31.4	23,209.5	54.1	143,221.2	45.2	828,075.8	35.3
1989	1,013,420.0	36.0	51,646.4	43.6	56,792.5	54.1	19,512.1	32.5	25,769.1	53.1	153,720.1	46.3	859,699.9	34.6
1990	1,031,350.0	35.8	53,608.2	41.0	57,367.3	52.6	19,299.1	33.2	29,075.2	55.0	159,349.8	45.4	872,000.2	34.5
1991	1,028,060.0	36.2	47,616.7	36.3	60,357.8	53.1	16,819.8	31.3	33,416.9	55.5	158,211.2	44.1	869,848.8	35.1
1992	1,063,570.0	35.9	45,246.7	35.4	62,524.0	49.2	17,618.3	29.6	36,165.7	55.2	161,554.7	42.5	902,015.3	34.9
1993	1,116,530.0	36.1	39,487.0	32.6	70,890.2	51.1	17,458.4	27.9	38,624.2	56.4	166,459.8	42.6	950,070.2	35.1
1994	1,197,090.0	36.2	NA	NA	84,507.9	53.9	19,521.9	27.3	40,586.0	55.0	NA	NA	NA	NA
1995	1,287,710.0	36.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Appendix table 6-4.
High-technology manufacturing in selected industrialized countries, value added and domestic content: 1970-95

	Total manufacturing		Aircraft		Communications		Office & computers		Drugs & medicines		High-tech manufacturing		Other manufacturing	
	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]
Japan														
1970	26,402,200.0	32.8	44,334.4	44.3	1,470,640.0	37.5	312,745.0	36.2	549,674.0	55.8	2,377,393.4	40.5	24,024,806.6	32.2
1971	28,430,200.0	33.8	51,899.5	45.3	1,458,200.0	37.7	327,933.0	38.1	658,130.0	60.0	2,496,162.5	42.0	25,934,037.5	33.1
1972	31,917,900.0	34.3	62,418.6	45.3	1,738,620.0	39.1	365,772.0	39.5	672,480.0	61.4	2,839,290.6	43.0	29,078,609.4	33.7
1973	39,568,100.0	33.5	90,705.1	47.1	1,972,330.0	37.5	449,269.0	35.6	704,728.0	58.7	3,217,032.1	40.6	36,351,067.9	32.9
1974	45,137,200.0	30.8	108,524.0	48.5	2,078,780.0	37.0	581,084.0	36.1	619,336.0	42.4	3,387,724.0	38.0	41,749,476.0	30.3
1975	44,800,800.0	31.0	121,152.0	49.0	1,972,680.0	38.4	556,282.0	36.9	856,016.0	51.6	3,506,130.0	41.0	41,294,670.0	30.4
1976	51,100,500.0	30.9	133,580.0	49.5	2,618,840.0	36.0	600,145.0	39.2	995,602.0	55.0	4,348,167.0	39.9	46,752,333.0	30.2
1977	55,412,200.0	31.2	132,919.0	49.0	2,822,760.0	36.4	726,608.0	33.5	1,178,250.0	57.9	4,860,537.0	39.7	50,551,663.0	30.6
1978	60,545,300.0	32.6	148,533.0	49.0	2,928,110.0	36.2	836,794.0	33.5	1,502,180.0	67.5	5,415,617.0	41.3	55,129,683.0	32.0
1979	64,815,400.0	31.2	134,096.0	42.8	3,240,990.0	35.4	989,708.0	33.7	1,312,850.0	55.6	5,677,644.0	38.4	59,137,756.0	30.7
1980	70,232,300.0	29.0	153,506.0	44.4	3,932,900.0	33.2	1,179,570.0	33.5	1,476,360.0	52.4	6,742,336.0	36.4	63,489,964.0	28.3
1981	74,938,500.0	29.9	147,224.0	44.6	4,865,830.0	33.3	1,335,990.0	32.4	1,760,620.0	55.5	8,109,664.0	36.5	66,828,836.0	29.2
1982	78,467,500.0	30.9	176,235.0	42.7	5,393,120.0	35.3	1,542,630.0	34.0	1,928,100.0	55.9	9,040,085.0	38.2	69,427,415.0	30.1
1983	81,747,700.0	31.5	203,000.0	43.8	6,278,730.0	34.8	1,986,090.0	34.3	2,093,640.0	58.0	10,561,460.0	37.9	71,186,240.0	30.7
1984	89,244,900.0	31.9	231,453.0	45.0	8,146,470.0	34.7	2,342,440.0	32.7	2,046,000.0	57.0	12,766,363.0	36.7	76,478,537.0	31.2
1985	94,672,600.0	32.9	283,397.0	45.1	8,276,160.0	35.3	2,853,440.0	35.6	2,107,600.0	57.8	13,520,597.0	37.8	81,152,003.0	32.2
1986	95,817,400.0	35.0	265,439.0	44.0	8,308,320.0	35.3	2,912,310.0	36.6	2,326,180.0	61.7	13,812,249.0	38.5	82,005,151.0	34.4
1987	98,406,700.0	36.2	331,277.0	47.6	8,285,500.0	35.6	2,895,760.0	34.6	2,478,640.0	61.7	13,991,177.0	38.5	84,415,523.0	35.8
1988	105,000,000.0	35.9	297,266.0	41.4	9,291,270.0	35.2	3,117,800.0	34.6	2,526,560.0	60.1	15,232,896.0	37.8	89,767,104.0	35.6
1989	113,000,000.0	35.7	265,123.0	36.2	10,281,900.0	36.0	3,535,620.0	34.9	2,756,460.0	61.2	16,839,103.0	38.4	96,160,897.0	35.3
1990	121,000,000.0	35.6	262,173.0	35.1	10,973,200.0	36.3	3,946,330.0	35.0	2,778,640.0	60.3	17,960,343.0	38.3	103,039,657.0	35.2
1991	129,000,000.0	36.1	276,712.0	37.0	11,580,100.0	35.7	4,218,600.0	34.4	2,864,740.0	60.7	18,940,152.0	37.8	110,059,848.0	35.8
1992	128,000,000.0	37.1	316,265.0	38.9	10,349,400.0	35.5	4,007,420.0	33.7	2,992,610.0	61.4	17,665,695.0	37.8	110,334,305.0	37.0
1993	121,000,000.0	37.1	350,262.0	41.7	9,763,680.0	34.8	3,430,760.0	31.7	3,098,270.0	61.8	16,642,972.0	37.2	104,357,028.0	37.1
1994	117,000,000.0	37.2	NA	NA	9,629,530.0	35.5	3,189,820.0	34.2	3,115,700.0	NA	NA	NA	NA	NA
1995	120,000,000.0	37.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Appendix table 6-4.
High-technology manufacturing in selected industrialized countries, value added and domestic content: 1970-95

	Total manufacturing		Aircraft		Communications		Office & computers		Drugs & medicines		High-tech manufacturing		Other manufacturing	
	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]
Germany														
1970	259,450.0	40.0	934.6	33.7	NA	NA	4,018.1	79.7	NA	NA	NA	NA	NA	NA
1971	277,210.0	40.2	1,011.1	33.5	NA	NA	4,383.3	80.0	NA	NA	NA	NA	NA	NA
1972	295,650.0	40.4	1,159.2	37.5	NA	NA	5,033.5	80.6	NA	NA	NA	NA	NA	NA
1973	332,580.0	40.2	1,651.3	42.9	NA	NA	5,238.3	81.0	NA	NA	NA	NA	NA	NA
1974	354,320.0	38.0	1,647.1	38.9	NA	NA	5,311.6	79.6	NA	NA	NA	NA	NA	NA
1975	352,540.0	38.0	1,528.7	39.8	NA	NA	4,551.5	82.5	5,501.4	48.7	NA	NA	NA	NA
1976	387,270.0	37.4	1,744.7	45.8	21,028.0	50.0	4,934.4	83.1	6,050.4	47.9	33,757.5	52.4	353,512.5	36.4
1977	411,480.0	38.2	1,764.5	46.4	22,689.3	56.3	5,930.0	81.8	6,444.5	46.7	36,828.3	56.5	374,651.7	37.0
1978	435,350.0	38.9	2,491.1	55.0	22,894.1	56.4	5,951.5	81.6	6,993.3	50.4	38,330.1	57.8	397,019.9	37.7
1979	467,080.0	37.7	2,928.2	48.9	23,919.8	54.5	6,130.5	81.4	7,466.1	50.6	40,444.6	56.0	426,635.4	36.5
1980	476,250.0	35.8	3,272.1	38.1	25,281.6	54.0	6,236.4	77.8	7,356.0	47.1	42,146.1	53.3	434,103.9	34.7
1981	485,710.0	35.0	3,894.3	39.7	26,710.0	54.2	7,582.4	75.6	8,257.4	49.3	46,444.0	54.1	439,266.0	33.8
1982	496,010.0	35.2	3,938.0	34.2	29,017.4	54.6	8,595.1	81.5	8,579.9	50.5	50,130.4	54.4	445,879.6	33.9
1983	519,420.0	35.9	3,932.2	39.0	30,586.4	53.3	9,645.1	76.4	9,676.3	51.5	53,840.0	54.5	465,580.0	34.5
1984	542,600.0	35.2	4,261.0	42.4	31,774.7	52.2	10,732.0	63.7	9,902.6	49.2	56,670.3	52.5	485,929.7	33.9
1985	578,850.0	35.3	4,390.4	40.9	35,119.6	50.4	11,645.3	59.0	10,367.3	49.9	61,522.6	50.9	517,327.4	34.1
1986	620,440.0	38.0	4,716.0	44.5	37,748.9	49.7	12,199.6	62.4	11,770.7	53.3	66,435.2	51.8	554,004.8	36.8
1987	624,690.0	38.1	5,005.4	41.4	40,639.2	55.8	11,786.0	63.9	11,267.4	49.8	68,698.0	54.5	555,992.0	36.8
1988	652,670.0	37.7	5,534.7	45.9	43,421.3	57.2	12,208.3	63.3	12,339.5	50.3	73,503.8	55.8	579,166.2	36.2
1989	686,010.0	36.6	6,254.1	37.7	46,078.2	56.5	11,959.0	63.6	12,793.0	48.0	77,084.3	53.7	608,925.7	35.2
1990	741,550.0	37.0	6,751.8	36.3	48,472.8	54.1	12,635.2	61.0	13,462.0	47.1	81,321.8	51.6	660,228.2	35.7
1991	790,660.0	36.8	7,648.6	38.7	48,115.2	48.6	16,935.1	58.9	14,714.5	49.9	87,413.4	49.4	703,246.6	35.6
1992	799,090.0	37.1	7,585.2	42.7	48,153.7	48.0	14,677.4	55.4	15,746.1	49.7	86,162.4	48.9	712,927.6	36.0
1993	746,310.0	37.2	NA	NA	45,918.9	46.4	11,288.3	52.4	16,032.3	51.3	NA	NA	NA	NA
1994	765,980.0	36.9	NA	NA	46,476.6	45.8	12,332.2	49.4	16,747.5	51.0	NA	NA	NA	NA
1995	789,452.0	36.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Appendix table 6-4.
High-technology manufacturing in selected industrialized countries, value added and domestic content: 1970-95

	Total manufacturing		Aircraft		Communications		Office & computers		Drugs & medicines		High-tech manufacturing		Other manufacturing	
	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]
France														
1970	215,840.0	38.5	3,042.1	35.8	6,646.6	52.6	4,787.8	61.4	2,449.5	30.8	16,925.9	45.9	198,914.1	38.0
1971	238,979.0	38.7	3,373.1	36.0	7,610.5	52.3	4,958.0	59.9	2,828.0	30.9	18,769.6	45.4	220,209.4	38.3
1972	265,734.0	38.8	3,861.5	36.8	8,710.6	50.7	5,288.2	59.3	2,995.6	30.6	20,855.9	45.0	244,878.1	38.4
1973	302,922.0	38.2	4,261.5	35.6	10,425.4	50.0	4,959.0	55.4	3,491.6	31.1	23,137.5	43.7	279,784.5	37.8
1974	342,318.0	34.5	4,491.6	31.2	12,618.0	49.6	5,255.1	55.6	4,085.3	31.3	26,450.0	42.4	315,868.0	33.9
1975	381,286.0	37.4	6,030.2	36.3	14,605.9	49.4	5,772.4	53.6	4,753.1	31.0	31,161.6	43.1	350,124.4	36.9
1976	440,749.0	37.0	9,302.5	38.6	16,866.2	48.3	7,429.9	54.1	5,197.5	31.1	38,796.2	43.4	401,952.9	36.4
1977	496,403.0	37.5	10,401.0	39.1	19,146.8	47.4	8,815.8	54.1	5,831.0	31.2	44,194.6	43.3	452,208.4	37.0
1978	564,275.0	39.1	12,980.0	45.8	21,402.6	46.7	8,825.8	53.3	7,558.0	33.3	50,766.4	44.8	513,508.6	38.6
1979	635,601.0	38.1	13,802.0	42.0	25,020.7	43.2	9,718.4	51.3	8,308.0	34.4	56,849.1	42.5	578,751.9	37.7
1980	679,520.0	35.6	16,032.0	39.5	27,054.3	43.9	11,041.2	51.1	9,857.0	34.4	63,984.5	42.0	615,535.5	35.0
1981	733,461.0	34.8	20,108.0	37.9	30,620.0	45.3	13,287.8	50.6	11,377.0	33.3	75,392.8	41.6	658,068.2	34.1
1982	821,520.0	35.0	22,480.0	37.0	34,829.1	45.0	15,791.5	48.4	12,526.0	32.3	85,626.6	40.8	735,893.4	34.4
1983	900,970.0	35.6	27,250.0	40.8	39,133.7	43.2	18,105.4	45.2	15,256.0	34.2	99,745.1	41.2	801,224.9	35.0
1984	956,273.0	34.6	29,913.0	36.9	46,728.4	42.9	25,249.8	48.3	15,271.0	31.2	117,162.2	40.2	839,110.8	33.9
1985	1,033,130.0	35.3	31,005.0	38.1	49,149.9	41.0	28,660.3	47.6	16,247.9	30.0	125,063.1	39.6	908,066.9	34.8
1986	1,120,100.0	38.4	31,444.0	38.6	50,915.5	40.3	29,114.3	47.9	18,851.0	32.1	130,324.8	39.8	989,775.2	38.2
1987	1,143,220.0	38.1	30,661.0	36.8	54,579.1	40.5	27,852.4	47.3	20,368.0	33.3	133,460.5	39.5	1,009,759.5	37.9
1988	1,242,130.0	38.3	35,566.0	37.3	59,239.2	40.9	31,247.6	45.8	21,645.9	31.5	147,698.7	39.2	1,094,431.3	38.2
1989	1,324,620.0	37.3	38,809.0	35.0	62,245.9	39.4	33,131.6	43.6	21,884.0	29.1	156,070.5	37.2	1,168,549.5	37.3
1990	1,394,500.0	37.7	39,840.0	32.5	64,615.6	38.9	34,470.6	44.1	24,548.9	30.5	163,475.1	36.5	1,231,024.9	37.9
1991	1,409,770.0	37.7	39,877.0	32.0	66,026.1	37.4	34,360.4	42.7	25,742.9	30.4	166,006.4	35.6	1,243,763.6	38.0
1992	1,402,730.0	37.6	39,883.0	31.4	66,815.0	37.7	32,387.0	41.8	29,427.9	31.9	168,512.9	35.5	1,234,217.1	37.9
1993	1,380,290.0	38.7	40,646.0	33.6	66,032.0	38.2	28,850.0	40.6	32,935.8	33.9	168,463.8	36.5	1,211,826.2	39.0
1994	1,423,060.0	37.9	38,330.0	31.4	67,573.0	37.4	28,584.0	39.1	31,715.8	32.2	166,202.8	35.0	1,256,857.2	38.3
1995	1,478,010.0	37.6	42,874.0	34.7	71,080.0	37.2	29,687.0	38.0	32,670.0	31.2	176,311.0	35.4	1,301,699.0	37.9

Appendix table 6-4.
High-technology manufacturing in selected industrialized countries, value added and domestic content: 1970-95

	Total manufacturing		Aircraft		Communications		Office & computers		Drugs & medicines		High-tech manufacturing		Other manufacturing	
	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]
United Kingdom														
1970	14,839.0	31.3	474.6	78.5	546.5	36.9	117.6	32.3	226.3	42.5	1,365.1	45.7	13,473.9	30.4
1971	16,093.0	32.0	534.0	81.1	638.1	38.1	115.7	34.2	259.8	44.8	1,547.5	47.6	14,545.5	30.9
1972	18,088.0	33.6	577.7	82.6	717.2	39.1	161.9	38.9	259.8	44.0	1,716.6	48.5	16,371.4	32.6
1973	20,969.0	33.1	606.0	79.8	840.9	37.8	181.8	35.8	292.1	41.0	1,920.8	45.7	19,048.2	32.2
1974	22,720.0	27.3	563.5	64.0	919.4	35.4	216.3	33.3	316.3	35.6	2,015.6	40.2	20,704.4	26.5
1975	27,657.0	29.7	764.3	69.2	1,136.4	39.7	301.0	39.6	412.2	39.3	2,614.0	45.3	25,043.0	28.7
1976	31,883.0	28.2	842.4	38.5	1,223.2	35.4	271.1	30.9	474.0	37.6	2,810.7	36.1	29,072.3	27.6
1977	38,512.0	29.2	896.4	38.6	1,483.2	38.2	352.1	35.9	669.5	41.6	3,401.1	38.7	35,110.9	28.5
1978	44,586.0	31.2	1,046.4	39.8	1,805.7	40.4	433.7	38.4	808.6	43.2	4,094.3	40.6	40,491.7	30.5
1979	49,395.0	29.9	1,159.5	35.5	1,906.6	38.0	570.5	38.4	921.2	41.0	4,557.8	37.9	44,837.2	29.2
1980	54,144.0	30.7	1,727.3	37.1	2,407.2	40.4	642.0	40.5	1,107.7	45.4	5,884.2	40.2	48,259.8	29.8
1981	55,834.0	31.3	1,861.6	35.1	2,578.7	39.9	621.1	42.5	1,192.1	45.2	6,253.5	39.4	49,580.5	30.5
1982	61,158.0	32.3	2,004.2	37.7	3,051.5	42.5	771.6	44.4	1,493.2	49.0	7,320.4	42.4	53,837.6	31.3
1983	64,738.0	31.8	2,305.5	41.0	3,296.0	40.2	921.1	40.0	1,553.8	47.5	8,076.4	41.6	56,661.6	30.7
1984	68,634.0	30.3	2,139.2	36.8	3,890.0	38.6	1,111.6	33.9	1,725.8	47.0	8,866.6	38.8	59,767.4	29.4
1985	76,801.0	31.7	2,228.8	33.1	4,222.1	40.0	1,509.1	35.1	1,988.4	49.3	9,948.3	38.8	66,852.7	30.8
1986	82,422.0	34.1	2,942.0	36.2	4,285.4	39.7	1,499.9	36.5	2,182.4	49.3	10,909.7	39.7	71,512.3	33.4
1987	89,902.0	33.1	3,028.1	34.1	4,459.8	38.5	1,791.9	34.7	2,526.0	50.3	11,805.7	38.5	78,096.3	32.5
1988	100,232.0	33.5	3,394.6	37.2	4,972.2	39.1	2,302.6	34.0	2,939.6	51.4	13,609.0	39.6	86,623.1	32.8
1989	107,166.0	32.9	4,200.7	38.6	4,867.5	35.8	2,398.2	30.6	3,175.9	50.0	14,642.2	37.9	92,523.8	32.2
1990	111,315.0	32.9	5,078.3	42.7	4,914.4	35.2	2,465.8	29.7	3,493.2	51.1	15,951.6	38.9	95,363.4	32.0
1991	106,896.0	32.6	4,770.9	39.6	4,744.9	36.2	2,331.7	28.1	3,801.1	50.5	15,648.6	38.2	91,247.5	31.8
1992	109,071.0	32.2	3,818.5	28.9	4,790.2	36.2	2,093.1	24.0	4,216.0	48.7	14,917.8	34.0	94,153.2	31.9
1993	113,940.0	32.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1994	121,272.0	32.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1995	128,631.0	32.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Appendix table 6-4.
High-technology manufacturing in selected industrialized countries, value added and domestic content: 1970-95

	Total manufacturing		Aircraft		Communications		Office & computers		Drugs & medicines		High-tech manufacturing		Other manufacturing	
	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]
Italy														
1970	18,105,000.0	36.4	92,206.4	30.8	455,451.0	47.3	415,480.0	56.5	358,597.0	32.5	1,321,734.4	42.6	16,783,265.6	36.0
1971	19,452,000.0	36.4	110,424.0	30.4	518,762.0	48.5	369,564.0	59.7	386,415.0	32.8	1,385,165.0	42.9	18,066,835.0	36.0
1972	21,016,000.0	36.5	116,961.0	30.1	572,976.0	48.4	282,613.0	61.4	402,055.0	32.4	1,374,605.0	42.0	19,641,395.0	36.1
1973	26,064,000.0	36.6	115,832.0	28.2	660,403.0	50.7	227,590.0	66.2	420,390.0	34.9	1,424,215.0	43.7	24,639,785.0	36.2
1974	34,901,000.0	36.5	148,263.0	30.0	846,521.0	49.9	275,660.0	67.1	502,252.0	43.9	1,772,696.0	47.3	33,128,304.0	36.1
1975	38,436,000.0	36.6	205,515.0	27.1	920,971.0	46.5	312,219.0	64.4	606,728.0	41.4	2,045,433.0	43.6	36,390,567.0	36.2
1976	51,506,000.0	36.6	325,492.0	27.9	1,269,360.0	42.5	411,565.0	60.7	769,069.0	42.3	2,775,486.0	41.7	48,730,514.0	36.3
1977	61,862,000.0	36.6	407,608.0	29.5	1,583,880.0	39.6	488,671.0	58.2	839,007.0	41.3	3,319,166.0	40.2	58,542,834.0	36.4
1978	71,459,000.0	36.6	495,955.0	26.1	1,626,920.0	37.5	541,710.0	56.8	986,175.0	41.9	3,650,760.0	38.2	67,808,240.0	36.5
1979	87,935,000.0	36.6	626,340.0	27.5	1,916,120.0	37.8	772,625.0	58.3	1,191,210.0	42.2	4,506,295.0	39.2	83,428,705.0	36.5
1980	107,923,000.0	36.6	797,661.0	25.6	2,152,840.0	35.7	960,427.0	57.3	1,655,330.0	46.0	5,566,258.0	38.6	102,356,742.0	36.5
1981	124,119,000.0	36.0	1,191,630.0	25.7	2,617,300.0	37.7	1,174,270.0	55.1	1,825,950.0	44.8	6,809,150.0	38.3	117,309,850.0	35.9
1982	140,932,000.0	35.6	1,448,060.0	24.0	3,175,750.0	34.8	1,451,200.0	53.7	2,292,240.0	43.2	8,367,250.0	36.1	132,564,750.0	35.6
1983	156,417,000.0	35.6	1,574,680.0	31.2	4,114,330.0	51.9	1,685,190.0	62.5	3,600,430.0	61.4	10,974,630.0	51.0	145,442,370.0	34.8
1984	176,942,000.0	34.2	1,707,630.0	36.4	4,602,440.0	54.2	2,047,180.0	59.3	3,977,200.0	54.9	12,334,450.0	51.7	164,607,550.0	33.4
1985	196,484,000.0	34.2	1,864,080.0	26.8	4,901,630.0	41.9	2,732,170.0	76.4	4,745,400.0	50.2	14,243,280.0	45.0	182,240,720.0	33.5
1986	213,686,000.0	35.9	2,247,060.0	36.5	5,306,900.0	45.0	2,751,730.0	30.9	4,986,940.0	48.5	15,292,630.0	41.2	198,393,370.0	35.6
1987	230,093,000.0	35.8	2,321,930.0	40.3	5,816,800.0	46.4	2,914,680.0	31.5	5,598,060.0	43.0	16,651,470.0	41.1	213,441,530.0	35.4
1988	256,378,000.0	34.8	2,567,880.0	35.9	6,619,280.0	40.0	3,106,570.0	24.7	NA	NA	NA	NA	NA	NA
1989	279,654,000.0	33.8	3,273,600.0	45.2	7,884,310.0	49.3	3,308,120.0	31.2	NA	NA	NA	NA	NA	NA
1990	293,622,000.0	34.3	3,544,500.0	46.5	8,608,650.0	51.1	2,886,320.0	24.9	NA	NA	NA	NA	NA	NA
1991	300,246,000.0	34.9	3,285,340.0	45.9	8,860,790.0	52.5	2,904,940.0	30.3	NA	NA	NA	NA	NA	NA
1992	307,906,000.0	35.5	NA	NA	8,883,320.0	54.2	3,167,660.0	32.5	NA	NA	NA	NA	NA	NA
1993	310,429,000.0	35.3	NA	NA	8,520,540.0	53.5	3,085,930.0	33.1	NA	NA	NA	NA	NA	NA
1994	331,620,000.0	34.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1995	369,033,000.0	33.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Appendix table 6-4.
High-technology manufacturing in selected industrialized countries, value added and domestic content: 1970-95

	Total manufacturing		Aircraft		Communications		Office & computers		Drugs & medicines		High-tech manufacturing		Other manufacturing	
	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]
South Korea														
1970	581,700.0	25.8	NA	NA	16,885.7	40.7	312,745.0	36.2	11,706.0	39.2	341,336.7	36.5	240,363.3	18.2
1971	721,900.0	24.7	NA	NA	25,898.1	39.5	327,933.0	38.1	16,206.0	40.6	370,037.1	38.3	351,862.9	18.0
1972	937,000.0	25.0	NA	NA	39,020.8	33.7	365,772.0	39.5	17,120.5	36.4	421,913.3	38.8	515,086.7	19.4
1973	1,350,200.0	25.0	NA	NA	76,210.2	30.5	449,269.0	35.6	20,159.1	35.0	545,638.3	34.8	804,561.7	21.0
1974	1,970,300.0	23.2	NA	NA	154,792.0	34.0	581,084.0	36.1	34,424.8	40.4	770,300.8	35.9	1,199,999.2	19.0
1975	2,665,300.0	24.1	NA	NA	202,702.0	36.8	556,282.0	36.9	58,688.5	36.7	817,672.5	36.9	1,847,627.5	20.9
1976	3,862,400.0	25.3	NA	NA	307,050.0	32.8	600,145.0	39.2	84,443.9	43.2	991,638.9	37.2	2,870,761.1	22.7
1977	4,837,300.0	25.3	NA	NA	327,563.0	32.2	726,608.0	33.5	112,835.0	44.7	1,167,006.0	34.0	3,670,294.0	23.4
1978	6,513,900.0	25.3	NA	NA	436,609.0	28.4	836,794.0	33.5	148,212.0	45.2	1,421,615.0	32.6	5,092,285.0	23.9
1979	8,644,800.0	24.6	NA	NA	608,218.0	29.0	989,708.0	33.7	176,438.0	40.3	1,774,364.0	32.4	6,870,436.0	23.2
1980	10,743,100.0	22.8	NA	NA	700,517.0	29.7	1,179,570.0	33.5	266,539.0	43.4	2,146,626.0	33.0	8,596,474.0	21.2
1981	13,566,700.0	22.8	NA	NA	921,156.0	29.8	1,335,990.0	32.4	290,042.0	41.8	2,547,188.0	32.2	11,019,512.0	21.4
1982	15,376,400.0	23.2	NA	NA	974,522.0	29.8	1,542,630.0	34.0	380,122.0	44.7	2,897,274.0	33.5	12,479,126.0	21.7
1983	18,637,000.0	24.3	NA	NA	1,358,180.0	30.2	1,986,090.0	34.3	456,738.0	46.9	3,801,008.0	33.7	14,835,992.0	22.6
1984	21,989,100.0	24.6	NA	NA	1,890,080.0	30.9	2,342,440.0	32.7	517,734.0	45.7	4,750,254.0	32.9	17,238,846.0	23.0
1985	24,080,000.0	24.8	NA	NA	1,958,250.0	30.9	2,853,440.0	35.6	558,327.0	45.0	5,370,017.0	34.4	18,709,983.0	23.0
1986	29,449,400.0	25.5	NA	NA	2,722,600.0	28.1	2,912,310.0	36.6	681,001.0	50.1	6,315,911.0	33.2	23,133,489.0	24.0
1987	35,173,500.0	25.1	NA	NA	3,471,710.0	25.2	2,895,760.0	34.6	734,021.0	50.6	7,101,491.0	30.1	28,072,009.0	24.0
1988	42,679,200.0	26.3	NA	NA	4,395,730.0	26.1	3,117,800.0	34.6	989,079.0	46.5	8,502,609.0	30.4	34,176,591.0	25.4
1989	46,252,900.0	26.6	NA	NA	4,896,630.0	28.8	3,535,620.0	34.9	931,269.0	49.9	9,363,519.0	32.3	36,889,381.0	25.5
1990	52,351,000.0	26.5	NA	NA	5,855,520.0	30.8	3,946,330.0	35.0	923,660.0	38.7	10,725,510.0	32.8	41,625,490.0	25.3
1991	61,527,300.0	27.5	NA	NA	6,687,980.0	32.1	4,218,600.0	34.4	1,182,850.0	43.3	12,089,430.0	33.7	49,437,870.0	26.3
1992	66,711,400.0	27.7	NA	NA	6,947,920.0	32.4	4,007,420.0	33.7	1,357,870.0	43.7	12,313,210.0	33.8	54,398,190.0	26.6
1993	72,162,400.0	28.4	NA	NA	8,655,490.0	35.6	3,430,760.0	31.7	1,491,550.0	44.5	13,577,800.0	35.3	58,584,600.0	27.2
1994	82,131,900.0	29.1	NA	NA	10,401,400.0	36.0	3,189,820.0	34.2	1,669,010.0	47.2	15,260,230.0	36.5	NA	NA
1995	94,484,800.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Appendix table 6-4.
High-technology manufacturing in selected industrialized countries, value added and domestic content: 1970-95

	Total manufacturing		Aircraft		Communications		Office & computers		Drugs & medicines		High-tech manufacturing		Other manufacturing	
	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]	Value added (millions of nat'l currency)	Value added/ production (percent)[a]
Spain														
1970	579,816.0	25.4	NA	NA	NA	NA	NA	NA	11,914.3	28.4	NA	NA	NA	NA
1971	656,537.0	25.9	NA	NA	NA	NA	NA	NA	11,983.0	21.0	NA	NA	NA	NA
1972	810,781.0	26.8	NA	NA	NA	NA	NA	NA	16,409.0	24.8	NA	NA	NA	NA
1973	1,005,790.0	27.4	NA	NA	NA	NA	NA	NA	21,130.4	26.7	NA	NA	NA	NA
1974	1,281,930.0	26.1	NA	NA	NA	NA	NA	NA	25,830.8	29.4	NA	NA	NA	NA
1975	1,430,960.0	27.1	NA	NA	NA	NA	NA	NA	29,614.5	31.3	NA	NA	NA	NA
1976	1,713,390.0	27.5	NA	NA	NA	NA	NA	NA	33,523.4	32.6	NA	NA	NA	NA
1977	2,148,850.0	28.6	NA	NA	NA	NA	NA	NA	43,109.3	36.8	NA	NA	NA	NA
1978	3,719,230.0	36.3	7,873.2	67.6	92,189.6	47.0	6,791.4	55.9	73,576.0	49.1	180,430.2	48.8	3,538,799.8	35.8
1979	4,229,370.0	36.8	10,448.9	76.9	94,687.3	48.4	8,194.6	53.0	87,042.0	51.9	200,372.8	51.1	4,028,997.2	36.3
1980	4,977,920.0	36.0	13,242.0	68.6	109,189.0	56.1	8,804.9	42.0	99,517.8	49.2	230,753.7	52.8	4,747,166.3	35.5
1981	5,321,120.0	35.8	18,693.7	65.8	113,029.0	56.9	14,861.5	43.8	121,279.0	52.6	267,863.2	54.5	5,053,256.8	35.1
1982	5,779,520.0	36.5	22,084.0	57.4	133,100.0	53.7	18,439.4	41.0	135,298.0	52.3	308,921.4	52.4	5,470,598.6	35.9
1983	6,541,970.0	36.4	25,394.5	64.2	155,770.0	55.0	20,476.0	48.9	147,872.0	53.1	349,512.5	54.3	6,192,457.5	35.7
1984	6,963,460.0	35.9	21,629.7	67.7	156,185.0	51.5	34,914.9	33.3	154,368.0	54.8	367,097.6	50.8	6,596,362.4	35.3
1985	7,531,800.0	36.2	26,964.2	70.2	154,470.0	50.2	42,962.5	30.1	187,252.0	55.6	411,648.7	49.8	7,120,151.3	35.7
1986	8,322,400.0	40.3	30,872.1	66.5	134,133.0	45.3	34,880.2	29.6	192,557.0	50.5	392,442.3	46.6	7,929,957.7	40.0
1987	9,029,700.0	40.7	35,729.1	60.2	144,252.0	44.3	31,444.4	29.4	217,789.0	50.9	429,214.5	46.7	8,600,485.5	40.5
1988	9,679,100.0	40.5	56,535.0	70.0	182,952.0	46.2	45,087.5	36.0	251,587.0	52.0	536,161.5	49.4	9,142,938.5	40.1
1989	10,675,100.0	40.3	58,861.1	61.6	221,873.0	44.3	55,574.4	42.4	320,233.0	54.5	656,541.5	50.0	10,018,558.5	39.8
1990	11,346,300.0	40.6	76,298.3	66.6	264,633.0	45.7	45,462.4	42.9	377,487.0	57.1	763,880.7	52.3	10,582,419.3	39.9
1991	12,011,700.0	40.9	61,303.8	63.9	240,803.0	46.0	64,162.5	41.0	453,695.0	57.5	819,964.3	52.4	11,191,735.7	40.3
1992	12,380,800.0	42.4	73,806.6	67.9	190,498.0	43.3	35,097.2	26.8	556,604.0	62.9	856,005.8	54.7	11,524,794.2	41.7
1993	12,653,100.0	43.1	NA	NA	229,692.0	44.2	56,937.3	38.1	526,134.0	65.0	NA	NA	NA	NA
1994	13,993,500.0	44.0	NA	NA	269,982.0	44.4	67,821.5	39.5	638,410.0	66.6	NA	NA	NA	NA
1995	16,293,000.0	45.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA = not available

NOTE: For U.S. value added, the Organisation for Economic Co-operation and Development reports data supplied by the U.S. Bureau of Economic Analysis on "Gross Product Originating."

[a]The production data used in this calculation are valued in national currency and are maintained by the Organisation for Economic Co-operation and Development in its Structural Analysis Database. These data do not match the production data provided in appendix table 6-5, which are valued in 1987 U.S. dollars.

SOURCE: Organisation for Economic Co-operation and Development, Structural Analysis Database (1996 edition).

See text table 6-2.

Appendix table 6-5.
Global industry and trade data, by selected countries and industries: 1980-95
(Millions of 1987 U.S. dollars)

Activity and country	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
All manufacturing industries																
Production																
All countries[a]	7,754,045	8,144,508	8,063,357	8,289,382	8,891,805	9,044,120	9,136,926	9,536,219	10,117,377	10,496,222	10,617,686	10,698,977	10,757,128	10,722,920	11,239,430	11,647,170
United States	2,070,477	2,201,960	2,077,227	2,143,027	2,326,374	2,282,612	2,300,127	2,465,600	2,568,882	2,553,131	2,544,395	2,485,743	2,622,845	2,685,838	2,859,185	2,949,769
Canada	173,666	188,763	173,291	183,293	208,511	222,268	230,649	237,541	247,747	243,392	229,974	217,454	223,449	242,460	256,594	267,526
Japan	1,387,623	1,486,046	1,550,489	1,594,840	1,713,927	1,791,557	1,734,699	1,747,725	1,898,321	2,034,442	2,188,385	2,316,907	2,226,411	2,082,610	2,108,386	2,149,120
Germany[b]	637,296	683,703	695,146	708,441	752,312	799,415	794,950	792,963	826,756	882,596	920,154	977,212	947,558	983,256	1,053,734	1,091,743
France	435,143	461,449	478,474	479,285	495,137	501,172	497,227	499,816	524,458	555,932	567,715	571,754	569,432	533,252	554,404	570,845
United Kingdom	348,576	339,809	345,213	358,294	389,559	402,759	400,410	422,852	438,471	448,461	445,029	410,934	435,123	432,630	454,420	472,542
Italy	303,334	312,897	304,996	319,591	347,187	342,220	338,427	345,702	366,457	376,611	366,952	361,669	355,602	347,457	355,722	367,267
China	262,631	243,072	237,225	249,783	244,522	249,616	249,996	274,338	339,767	384,841	313,891	330,941	402,398	541,573	590,053	650,192
South Korea	56,177	66,004	69,885	79,768	92,905	96,487	116,248	138,475	153,162	160,954	177,614	191,979	203,919	220,871	240,551	264,786
Taiwan	71,000	74,776	75,383	83,700	97,038	104,372	128,187	139,648	152,272	152,585	149,580	159,417	158,268	167,748	173,906	186,186
Singapore	13,158	15,048	14,732	15,201	17,375	16,696	19,175	24,209	30,229	28,545	30,165	32,001	33,044	36,695	40,449	44,775
Hong Kong	19,404	23,400	21,411	27,058	27,864	24,962	31,356	36,428	37,173	34,477	32,188	30,364	28,728	28,230	28,229	29,812
Exports																
All countries[a]	1,442,807	1,583,926	1,571,788	1,591,194	1,741,579	1,828,029	1,901,237	2,005,552	2,310,416	2,482,678	2,566,262	2,738,487	2,927,673	3,118,098	3,409,123	3,714,972
United States	205,076	215,057	196,520	180,829	190,702	190,464	200,625	223,520	264,049	305,129	325,537	348,973	375,126	377,147	416,582	467,518
Canada	44,565	50,655	51,778	55,429	66,920	70,194	77,883	76,625	86,283	83,531	87,029	88,615	97,605	105,809	122,345	138,911
Japan	167,319	193,214	193,229	200,055	228,986	240,658	239,059	236,189	256,177	271,250	282,871	286,565	289,159	278,073	278,147	294,184
Germany[b]	201,714	236,978	247,717	242,019	263,450	285,055	279,874	283,854	322,975	344,675	338,540	354,008	357,603	351,484	386,804	412,372
France	102,074	115,528	113,789	114,475	123,326	127,871	125,219	129,568	149,018	159,338	163,496	176,072	184,356	191,650	203,617	217,441
United Kingdom	97,352	92,825	93,078	91,172	98,780	105,171	116,086	121,666	144,213	146,143	153,904	167,575	168,925	174,021	179,349	195,422
Italy	82,515	94,925	95,392	96,995	103,152	112,328	111,828	112,926	127,040	136,181	133,165	136,445	141,531	164,161	176,868	191,834
China	14,390	16,860	16,614	16,623	18,414	15,966	20,939	25,122	38,878	38,979	54,583	63,869	77,492	87,194	107,234	119,935
South Korea	17,633	23,296	25,485	27,608	33,474	34,534	39,268	48,513	59,811	62,943	60,612	66,898	69,541	75,207	83,946	93,778
Taiwan	20,286	22,452	22,073	23,829	28,506	29,328	41,132	56,755	67,491	75,355	76,088	84,905	96,163	100,720	107,293	117,964
Singapore	11,180	12,492	13,177	14,857	17,006	16,498	21,250	25,985	36,375	42,896	45,966	52,626	58,917	69,654	84,947	96,015
Hong Kong	19,453	23,207	23,216	25,108	30,337	31,591	36,790	47,886	62,022	68,659	74,901	86,608	103,239	115,988	124,885	135,950
Imports																
All countries[a]	1,355,470	1,465,746	1,457,058	1,499,989	1,656,996	1,736,679	1,822,093	1,931,793	2,235,044	2,404,720	2,495,021	2,648,558	2,828,165	2,992,882	3,291,253	3,585,730
United States	173,649	204,481	210,587	250,310	324,929	353,212	366,596	365,466	384,887	406,655	396,489	387,994	435,854	489,119	537,703	576,158
Canada	51,245	58,682	50,260	57,261	68,601	71,350	72,911	78,075	90,093	98,754	99,412	100,695	101,563	108,776	123,213	133,322
Japan	47,230	50,930	50,371	52,093	58,471	59,425	70,600	87,645	113,298	127,516	134,680	139,263	140,617	152,266	174,714	197,470
Germany[b]	135,526	133,822	130,627	139,156	144,468	153,151	173,739	185,893	206,584	219,452	250,145	289,071	297,136	290,477	313,343	342,921
France	98,668	104,291	109,703	104,221	107,032	113,643	124,751	135,868	160,660	173,266	180,163	186,363	188,200	186,337	201,498	216,062
United Kingdom	96,239	99,963	101,659	108,492	116,296	121,566	123,549	133,840	168,970	172,383	169,094	163,460	170,521	180,254	191,518	202,162
Italy	66,758	65,862	65,581	64,155	71,448	77,953	83,583	95,307	109,066	118,417	123,532	128,218	132,604	118,890	128,266	139,186
China	14,289	14,604	13,657	16,984	27,482	44,783	40,395	38,940	52,564	53,141	51,077	62,607	80,836	115,361	124,715	137,863
South Korea	13,022	14,866	15,222	17,648	21,232	21,472	24,892	30,324	36,218	41,572	45,731	52,718	49,631	52,659	64,567	76,666
Taiwan	13,436	14,463	13,377	14,835	17,295	16,200	19,659	26,525	34,951	39,898	40,662	46,822	54,346	56,858	60,356	66,577
Singapore	17,715	19,565	21,087	21,974	22,851	21,341	22,172	26,592	33,912	39,341	45,575	51,359	56,768	66,698	77,497	86,354
Hong Kong	22,741	25,879	25,275	26,029	30,677	29,929	32,900	40,676	56,456	56,355	69,827	83,032	99,873	96,913	111,483	122,135

Appendix table 6-5.
Global industry and trade data, by selected countries and industries: 1980-95
(Millions of 1987 U.S. dollars)

Activity and country	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Apparent consumption																
All countries[a]	8,147,070	8,555,504	8,477,702	8,736,480	9,393,800	9,572,261	9,702,883	10,146,039	10,833,030	11,273,876	11,427,213	11,549,155	11,671,095	11,684,724	12,288,728	12,804,129
United States	2,105,792	2,261,665	2,155,857	2,272,144	2,523,681	2,508,602	2,532,981	2,682,354	2,778,412	2,757,552	2,725,599	2,643,581	2,811,863	2,927,328	3,123,907	3,220,240
Canada	191,269	209,252	184,596	198,864	226,800	240,892	245,133	258,238	273,305	279,780	264,567	252,267	252,572	272,835	289,283	300,078
Japan	1,316,536	1,400,492	1,464,516	1,505,936	1,611,164	1,681,672	1,637,217	1,669,374	1,831,589	1,971,387	2,124,376	2,254,859	2,163,972	2,039,724	2,087,976	2,182,756
Germany[b]	662,759	688,175	690,524	715,405	752,801	796,702	815,768	823,871	857,135	914,116	985,762	1,073,180	1,049,783	1,081,847	1,155,929	1,205,635
France	460,046	482,285	506,017	500,939	513,261	522,694	531,883	542,524	578,030	614,728	630,507	631,857	625,556	582,411	609,991	629,634
United Kingdom	377,831	374,487	381,367	402,928	436,728	450,408	442,718	471,733	506,780	519,154	506,901	456,866	487,201	491,016	520,766	538,791
Italy	318,982	320,178	311,857	323,864	355,092	350,927	352,902	371,126	396,969	410,847	408,079	405,491	400,675	364,914	373,110	385,967
China	265,251	244,231	237,968	254,165	257,759	281,979	274,544	294,317	364,063	409,692	325,969	348,929	430,243	597,814	637,164	691,281
South Korea	56,204	63,763	66,428	77,074	89,479	92,618	112,718	133,738	146,083	156,805	179,355	193,297	199,274	214,988	239,496	264,353
Taiwan	70,785	74,193	74,079	82,941	95,695	101,771	121,311	129,701	144,767	145,201	142,585	153,140	153,145	162,367	167,531	178,265
Singapore	21,531	24,180	24,819	24,778	26,042	24,286	23,645	29,161	33,854	32,175	37,478	39,562	40,786	45,422	47,273	51,594
Hong Kong	27,721	32,092	29,514	34,537	36,153	31,610	37,154	41,834	48,264	42,738	47,983	51,656	54,002	48,229	53,933	56,504
High-tech industries[c]																
Production																
All countries[a]	591,039	641,913	678,200	729,533	842,787	874,602	907,164	933,213	1,041,079	1,107,432	1,146,496	1,193,049	1,200,246	1,196,162	1,305,495	1,401,256
United States	216,290	231,553	248,692	264,003	304,695	311,135	320,961	301,400	325,241	327,793	338,027	341,448	363,270	350,016	397,297	444,713
Canada	7,759	8,545	8,077	8,048	9,798	11,080	11,922	13,489	15,031	15,804	16,260	17,178	18,352	17,746	20,317	21,776
Japan	140,544	162,815	175,356	191,578	226,617	235,344	234,575	247,089	283,274	311,087	335,719	361,526	332,368	307,732	320,924	320,202
Germany[b]	47,362	52,883	56,008	62,082	68,079	66,461	65,832	64,024	67,679	75,599	80,798	89,459	85,107	92,529	101,167	106,078
France	26,839	31,102	33,899	32,944	37,722	37,474	37,132	39,629	44,027	48,399	50,140	54,040	52,605	51,125	53,478	56,041
United Kingdom	31,393	31,244	32,572	35,228	40,488	43,895	45,816	49,984	54,628	58,255	59,284	56,133	57,843	56,106	62,200	66,811
Italy	15,910	15,264	14,633	15,822	16,217	14,600	15,406	16,510	19,050	20,593	20,766	19,289	18,346	16,925	17,673	18,806
China	11,609	10,146	10,072	12,781	15,344	24,632	23,939	28,567	38,912	43,833	32,710	35,939	47,162	65,115	71,375	81,341
South Korea	4,107	4,958	5,155	6,813	9,253	9,399	13,326	17,568	21,245	21,526	24,172	24,895	25,946	29,781	34,913	39,632
Taiwan	5,423	5,889	6,020	7,626	9,921	10,437	15,697	19,238	21,880	22,797	23,497	25,258	25,655	31,117	29,779	33,325
Singapore	2,616	2,839	2,748	3,762	5,354	5,432	7,437	10,959	14,686	11,843	12,946	13,501	14,705	17,567	20,459	23,410
Hong Kong	2,333	3,138	2,949	3,670	3,927	2,833	3,856	5,127	5,724	5,019	4,761	4,192	4,288	4,076	4,236	4,688
Exports																
All countries[a]	136,339	158,619	164,430	181,571	215,190	229,221	245,438	272,562	332,394	375,482	403,546	451,551	487,091	523,124	598,881	670,822
United States	35,439	39,139	36,074	40,678	43,934	47,384	51,599	59,628	71,978	80,340	90,147	97,933	105,134	102,639	114,473	128,709
Canada	2,701	3,460	3,816	3,928	4,943	5,370	5,899	6,274	6,788	7,276	8,566	10,005	10,687	10,409	12,591	14,890
Japan	22,258	27,805	28,588	35,077	46,277	47,963	50,338	52,243	62,270	67,584	71,102	74,094	74,862	72,528	74,568	79,652
Germany[b]	14,373	20,405	23,033	22,191	25,195	26,494	23,678	24,426	29,445	33,649	32,459	37,419	36,414	37,051	42,519	46,100
France	7,099	9,063	11,695	10,728	12,907	13,207	12,829	14,719	17,657	20,586	20,296	25,356	26,414	28,196	30,200	32,907
United Kingdom	14,143	13,651	15,069	16,072	18,450	20,862	23,747	21,202	26,665	28,646	30,464	38,745	36,443	39,926	42,834	48,257
Italy	4,355	5,171	5,727	5,799	6,795	8,141	7,639	7,614	9,453	10,489	10,689	10,741	11,375	12,792	13,397	14,887
China	307	336	346	417	713	483	785	1,066	2,269	2,138	4,139	4,780	6,790	7,629	10,458	12,173
South Korea	1,878	2,280	2,229	3,073	4,311	4,486	6,780	9,445	12,967	14,710	14,607	16,798	17,814	18,922	22,893	27,707
Taiwan	2,707	3,009	2,744	3,307	4,214	3,882	6,063	10,035	13,452	15,824	17,016	19,670	23,664	26,072	29,820	34,606
Singapore	2,502	2,356	2,428	3,149	4,104	4,417	6,169	9,146	14,088	17,001	19,649	22,309	26,799	33,388	45,047	51,963
Hong Kong	2,554	2,988	2,754	3,627	5,061	4,745	5,132	7,173	10,660	11,706	13,366	15,036	17,696	20,667	24,888	28,111

Appendix table 6-5.
Global industry and trade data, by selected countries and industries: 1980-95
(Millions of 1987 U.S. dollars)

Activity and country	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Imports																
All countries[a]	121,045	143,141	147,261	165,042	199,632	212,984	230,269	256,721	319,690	361,256	389,724	431,156	466,251	499,417	575,783	645,356
United States	16,953	22,576	24,361	33,224	47,650	50,088	52,738	55,719	64,431	73,906	73,855	78,537	93,060	102,881	116,797	134,379
Canada	5,080	6,207	5,632	6,577	8,493	8,319	9,038	10,222	13,424	13,412	14,828	16,889	17,784	17,539	20,050	23,422
Japan	4,726	5,561	5,332	6,293	6,666	7,491	8,854	10,333	13,279	15,595	18,425	19,171	20,650	23,595	29,425	34,607
Germany[b]	11,513	13,716	13,939	15,326	16,573	18,385	21,101	23,721	27,498	31,511	38,628	42,703	43,018	42,171	47,692	53,577
France	8,254	11,672	13,924	12,206	13,925	14,222	14,319	16,184	22,725	25,967	26,873	32,247	29,542	29,074	31,681	34,978
United Kingdom	10,758	11,441	11,922	14,014	15,892	17,097	17,117	19,775	25,832	29,351	30,230	29,489	30,848	34,268	36,872	38,520
Italy	5,378	6,070	6,150	6,167	7,665	8,752	9,594	11,323	14,115	14,814	16,652	17,785	17,489	15,596	17,024	18,575
China	851	948	784	1,288	3,129	6,104	3,943	4,832	6,321	6,246	6,176	7,866	11,375	16,050	19,394	21,000
South Korea	1,737	1,933	2,041	2,924	3,718	3,558	4,337	5,303	7,577	8,102	8,652	10,142	10,357	10,858	12,987	15,611
Taiwan	1,791	2,080	2,310	2,507	3,135	2,947	3,925	5,403	7,048	8,411	9,078	10,845	12,892	13,932	15,170	16,916
Singapore	2,977	2,974	3,274	4,494	5,121	5,127	5,461	7,120	9,638	11,980	14,448	16,711	18,864	23,358	30,015	34,259
Hong Kong	2,658	2,850	2,785	3,457	4,924	4,457	4,809	6,487	9,891	9,998	12,743	15,512	19,500	19,444	23,111	26,298
Apparent consumption																
All countries[a]	619,157	677,833	714,695	772,608	897,756	933,984	971,482	1,005,470	1,134,762	1,214,277	1,262,325	1,318,735	1,340,470	1,346,029	1,481,316	1,605,229
United States	209,338	227,781	248,830	269,964	322,943	329,573	339,302	317,448	341,871	348,450	352,266	355,396	387,151	385,506	439,082	494,936
Canada	10,807	12,137	10,826	11,664	14,557	15,360	16,517	19,013	23,404	23,786	24,687	26,601	28,179	27,542	31,145	33,801
Japan	129,530	148,735	160,516	173,148	200,698	209,092	208,036	220,705	252,792	279,200	304,202	328,645	300,448	280,427	298,039	315,218
Germany[b]	50,890	55,443	57,412	65,193	70,756	70,210	73,702	74,125	78,818	88,512	101,405	111,403	107,906	114,507	125,682	133,236
France	29,931	36,187	39,333	37,370	42,295	42,134	42,170	45,175	54,000	59,513	62,380	68,015	63,125	59,915	63,439	66,944
United Kingdom	31,537	32,453	33,186	37,234	42,571	45,428	45,225	53,658	60,166	65,691	66,050	56,351	60,851	59,867	66,685	69,149
Italy	18,452	17,983	17,088	18,247	19,510	18,132	20,084	22,923	27,076	28,656	30,528	30,149	28,487	24,265	26,145	27,616
China	12,179	10,786	10,542	13,696	17,840	30,311	27,205	32,494	43,342	48,300	35,469	39,911	53,173	75,306	82,854	88,637
South Korea	4,409	5,146	5,423	7,353	9,646	9,670	12,821	15,931	19,389	19,016	22,251	22,822	23,375	26,961	31,022	35,016
Taiwan	4,789	5,291	5,803	7,249	9,608	10,298	15,192	18,115	20,587	21,915	23,192	25,644	26,323	31,403	29,315	32,163
Singapore	3,373	3,691	3,839	5,443	6,778	6,617	7,403	10,044	12,189	9,222	10,607	11,063	10,720	12,563	12,429	13,526
Hong Kong	2,933	3,585	3,514	4,290	4,920	3,586	4,659	6,081	7,299	5,800	7,028	7,854	9,979	7,178	7,882	8,629
Aircraft																
Production																
All countries[a]	111,561	118,741	121,166	122,112	132,880	143,729	153,164	159,360	170,150	178,634	179,623	181,645	181,957	166,030	181,099	179,616
United States	70,590	74,755	76,806	78,648	85,599	92,782	101,477	103,600	108,325	108,401	113,407	114,356	110,582	92,320	104,937	99,486
Canada	2,226	2,394	1,835	1,613	2,037	2,377	2,813	3,021	3,534	3,915	4,219	3,820	3,509	3,121	4,181	4,245
Japan	2,999	3,463	3,588	3,687	3,977	4,426	4,232	5,026	5,560	5,518	5,464	5,356	5,655	5,461	5,152	5,048
Germany[b]	4,276	4,817	4,734	4,647	4,704	5,473	5,253	6,104	6,318	8,484	8,951	8,946	7,566	7,638	7,430	7,805
France	7,267	9,162	10,410	9,098	10,665	9,243	7,953	8,318	9,814	11,101	10,378	12,122	10,371	9,062	8,614	8,648
United Kingdom	10,519	10,511	10,119	10,309	10,387	11,730	13,478	14,341	14,737	16,242	16,543	15,614	16,318	15,082	15,417	15,955
Italy	3,236	3,138	3,123	2,877	2,934	2,991	3,207	3,205	3,977	4,112	3,423	3,112	2,864	2,552	2,615	2,653
China	3,875	2,982	2,989	3,792	3,808	5,609	5,169	6,086	6,403	7,951	4,783	5,549	11,238	17,489	19,019	21,125
South Korea	1	2	2	2	3	3	3	4	5	5	7	400	290	256	277	317
Taiwan	188	197	194	171	182	208	270	267	259	300	291	335	309	351	329	369
Singapore	92	100	131	173	201	282	306	324	372	297	334	337	454	463	485	539
Hong Kong	0	0	0	1	1	1	1	1	2	2	2	137	157	144	137	149

Appendix table 6-5.
Global industry and trade data, by selected countries and industries: 1980-95
(Millions of 1987 U.S. dollars)

Activity and country	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Exports																
All countries[a]	32,240	40,196	40,149	38,138	39,462	42,051	42,187	40,918	50,264	61,317	65,301	81,445	80,037	69,519	65,930	63,765
United States	15,787	17,684	13,959	14,001	12,239	15,799	17,043	19,717	22,055	26,727	30,577	33,695	34,420	27,664	25,755	20,682
Canada	881	1,099	1,327	1,062	1,080	1,361	1,908	1,700	1,756	1,951	2,592	3,052	2,296	1,924	2,047	2,086
Japan	113	170	243	210	190	167	165	238	337	458	439	511	548	440	426	443
Germany[b]	2,562	6,612	8,637	6,945	7,725	6,487	3,281	3,546	5,569	7,933	6,932	9,239	8,930	7,769	7,399	8,123
France	1,675	2,719	3,457	3,083	4,228	3,444	2,629	3,165	4,963	6,888	5,978	9,097	9,359	9,289	9,481	9,864
United Kingdom	8,162	7,221	7,904	8,203	8,488	9,164	11,331	7,070	8,731	7,882	8,665	15,378	12,527	10,631	9,186	9,946
Italy	483	1,397	1,510	1,322	1,546	1,509	1,194	1,163	1,636	1,917	2,484	2,289	2,387	1,801	1,754	1,894
China	1	2	2	5	47	24	35	6	14	14	23	37	330	163	160	174
South Korea	135	174	65	95	165	279	342	79	121	198	184	231	247	256	246	242
Taiwan	1	1	0	0	1	2	1	2	4	12	16	45	25	35	32	36
Singapore	136	122	86	199	166	384	138	157	181	489	328	250	245	173	181	199
Hong Kong	38	17	23	41	29	37	58	43	59	47	60	50	68	60	52	48
Imports																
All countries[a]	24,744	32,735	31,189	29,274	30,961	33,611	34,717	32,796	45,356	55,752	61,041	70,481	69,421	60,131	58,036	55,130
United States	2,896	4,156	3,882	3,688	4,935	6,532	6,847	5,637	7,120	7,557	8,604	8,761	9,186	8,449	8,032	7,290
Canada	1,393	1,673	1,051	1,179	1,265	1,605	1,713	1,747	3,479	2,524	2,145	2,285	2,253	1,483	1,290	1,552
Japan	1,365	1,732	1,284	1,803	1,366	1,955	2,179	2,197	2,370	2,349	3,578	3,473	3,972	3,035	3,155	2,755
Germany[b]	1,343	3,174	2,939	3,110	2,728	2,859	3,231	3,089	3,910	4,932	6,571	6,556	6,751	5,384	4,872	5,251
France	1,962	4,664	6,410	4,474	5,138	4,590	3,035	3,395	6,525	8,975	8,399	13,183	10,128	8,375	7,608	7,917
United Kingdom	4,119	3,138	2,298	2,927	3,266	3,678	2,992	2,628	4,167	4,614	5,547	4,665	4,371	4,207	4,427	3,706
Italy	730	1,210	979	1,085	1,279	1,250	1,100	998	1,256	1,323	1,766	2,004	1,691	1,241	1,451	1,501
China	197	18	48	302	155	854	676	706	493	798	878	1,185	2,672	2,923	3,387	2,689
South Korea	395	480	306	344	694	600	545	563	1,294	1,335	1,106	1,698	1,761	1,755	1,737	2,126
Taiwan	291	350	640	394	340	429	225	173	179	537	560	1,265	1,359	1,777	1,523	1,683
Singapore	728	472	432	786	859	975	618	571	520	1,276	962	1,337	1,345	1,554	1,375	1,193
Hong Kong	252	140	256	217	239	247	554	393	236	394	580	641	640	775	483	530
Apparent consumption																
All countries[a]	114,369	125,019	126,205	126,323	138,069	149,600	159,553	164,616	181,867	193,813	197,091	197,882	198,231	179,800	195,298	188,953
United States	62,838	67,006	71,316	72,952	82,343	88,761	96,963	96,119	100,798	98,243	101,790	100,894	97,119	82,605	96,092	93,253
Canada	2,951	3,235	1,884	1,991	2,488	2,957	3,092	3,493	5,698	4,980	4,431	3,834	4,056	3,176	3,954	4,344
Japan	4,284	5,076	4,701	5,342	5,209	6,264	6,295	7,056	7,694	7,546	8,733	8,469	9,243	8,188	8,008	7,012
Germany[b]	4,303	4,634	3,319	4,251	3,542	5,050	6,802	7,377	7,395	9,383	11,987	10,825	9,802	8,815	8,296	8,631
France	8,006	11,839	14,300	11,328	12,732	11,332	9,079	9,418	12,749	15,104	14,464	18,744	13,753	10,750	9,394	9,404
United Kingdom	8,511	8,296	6,549	7,175	7,335	8,655	8,159	11,539	12,206	14,690	15,152	8,615	10,957	10,834	12,523	11,485
Italy	3,656	3,460	3,144	3,123	3,233	3,284	3,551	3,466	4,197	4,220	3,617	3,666	3,044	2,652	2,955	2,951
China	4,071	2,999	3,034	4,089	3,921	6,443	5,814	6,787	6,884	8,737	5,642	6,703	13,631	20,275	22,272	20,020
South Korea	354	414	245	281	542	471	492	532	1,189	1,221	1,035	1,937	1,902	1,899	1,901	2,208
Taiwan	478	547	834	565	521	635	494	439	436	827	838	1,563	1,648	2,099	1,826	1,976
Singapore	707	469	491	793	922	937	809	764	737	1,155	1,008	1,439	1,557	1,820	1,661	1,550
Hong Kong	224	129	240	188	218	220	512	363	195	362	538	741	746	849	559	583

Appendix table 6-5.
Global industry and trade data, by selected countries and industries: 1980-95
(Millions of 1987 U.S. dollars)

Activity and country	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Office and computing machinery																
Production																
All countries[a]	89,805	99,954	110,386	124,913	155,235	161,471	160,899	174,946	200,527	217,434	229,330	234,965	238,019	243,951	260,766	285,557
United States	34,411	38,280	43,467	48,789	61,917	61,467	57,879	61,300	68,376	65,876	64,124	58,553	66,038	68,483	78,909	92,324
Canada	935	1,200	1,257	1,286	1,721	1,958	1,869	1,998	2,550	2,563	2,629	2,651	2,945	3,100	3,721	4,325
Japan	30,007	33,944	37,221	39,512	45,612	51,284	52,582	59,340	67,734	78,999	89,183	96,140	91,153	85,975	80,573	81,311
Germany[b]	6,015	7,074	8,099	10,116	13,028	11,721	10,286	9,318	9,951	10,280	10,748	14,799	13,036	15,368	17,346	18,295
France	4,668	5,068	5,043	5,923	6,862	7,211	7,519	8,190	8,353	8,821	8,608	9,365	9,776	10,119	10,670	11,408
United Kingdom	2,729	2,579	3,011	3,949	5,644	7,282	6,833	8,476	10,870	12,204	12,626	12,107	12,514	12,807	14,767	16,382
Italy	2,570	2,692	2,556	3,578	4,161	2,782	2,753	2,858	5,263	5,795	6,041	5,004	4,700	4,814	4,873	5,369
China	401	344	365	438	539	508	554	616	758	742	563	625	803	1,071	1,274	1,514
South Korea	49	62	53	176	367	489	823	839	1,189	1,261	1,368	1,444	1,449	2,826	4,024	4,712
Taiwan	222	267	296	502	883	1,011	2,063	3,046	3,374	3,558	3,870	4,167	4,304	4,885	4,956	5,695
Singapore	73	83	151	398	699	844	1,464	2,284	3,759	4,746	5,603	5,741	6,497	9,259	11,304	13,075
Hong Kong	127	179	187	463	663	396	453	581	990	1,279	2,084	2,139	1,906	1,740	1,773	1,993
Exports																
All countries[a]	25,953	29,754	33,229	42,445	56,513	64,657	71,643	85,254	106,119	119,139	127,802	138,337	152,726	168,741	192,292	219,557
United States	9,381	10,596	11,178	12,817	16,140	17,007	18,022	21,328	26,146	27,113	29,089	30,605	32,704	32,511	36,919	43,865
Canada	736	903	983	1,142	1,453	1,504	1,582	2,060	2,623	2,448	2,748	3,206	3,695	3,841	5,116	6,381
Japan	2,773	3,282	4,354	7,059	10,414	11,245	13,820	16,106	20,042	21,789	23,594	24,039	25,968	26,048	25,839	26,940
Germany[b]	2,943	3,689	4,026	4,779	5,669	7,280	7,338	7,219	7,726	8,614	8,490	9,076	8,435	8,846	10,007	10,714
France	1,607	2,022	2,021	2,567	3,154	3,543	3,954	4,610	4,862	5,293	5,040	5,693	6,039	6,180	6,778	7,503
United Kingdom	2,140	2,120	2,518	3,127	4,603	5,600	5,625	6,868	8,756	10,040	10,057	10,453	10,360	12,250	13,748	15,929
Italy	1,696	1,372	1,582	1,705	2,016	3,017	2,852	2,792	3,552	4,244	3,838	3,856	3,658	4,631	4,707	5,245
China	7	4	5	12	19	11	47	81	224	194	399	543	1,149	1,659	2,436	3,160
South Korea	77	91	127	249	481	655	1,094	1,636	2,590	2,918	2,690	2,889	3,029	3,471	3,448	4,458
Taiwan	191	246	283	478	927	1,181	2,164	4,083	5,897	7,550	9,156	11,176	14,008	15,033	16,969	19,638
Singapore	111	125	229	602	1,059	1,278	2,216	3,457	5,690	7,185	9,097	10,183	13,102	16,979	21,717	25,783
Hong Kong	463	580	526	952	1,571	1,347	1,300	1,738	2,539	2,790	3,234	3,950	4,975	5,379	6,152	6,693
Imports																
All countries[a]	25,288	29,142	32,600	41,793	55,771	63,637	70,479	84,095	104,784	117,522	126,056	136,517	150,459	165,556	189,097	215,887
United States	2,787	3,645	4,703	7,844	11,778	13,023	15,279	18,664	23,229	26,998	28,141	30,472	36,274	42,103	47,755	55,622
Canada	1,437	1,912	2,029	2,315	3,342	3,285	3,333	4,162	4,754	5,080	5,814	6,633	7,236	7,548	8,426	9,620
Japan	1,023	1,142	1,227	1,333	1,604	1,938	2,227	2,679	3,661	4,510	5,102	5,598	5,950	7,073	9,028	10,763
Germany[b]	3,128	3,385	3,502	4,415	5,391	6,565	7,553	8,906	10,332	12,182	14,034	15,878	16,570	16,469	18,200	20,821
France	2,526	2,801	3,246	3,798	4,364	5,017	5,820	6,479	7,946	8,253	8,299	8,229	8,789	9,208	10,851	12,422
United Kingdom	2,906	3,283	3,807	4,877	6,158	6,548	6,864	8,588	10,928	12,486	12,637	12,666	13,547	15,363	15,866	16,884
Italy	1,478	1,650	1,605	1,769	2,495	3,054	3,328	4,131	4,963	4,829	5,085	5,428	5,552	5,152	5,215	5,533
China	126	130	166	211	875	1,055	752	1,031	971	891	889	1,218	1,709	2,359	2,855	3,311
South Korea	157	172	268	410	422	583	900	904	1,340	1,498	1,723	1,830	1,600	1,813	2,382	2,989
Taiwan	143	187	230	299	411	456	689	945	1,384	1,598	1,774	1,974	2,270	2,266	2,608	3,014
Singapore	207	262	393	644	814	923	1,063	1,663	2,542	2,990	4,118	4,564	5,413	6,873	8,447	10,275
Hong Kong	463	439	437	634	1,021	927	780	1,081	1,657	1,654	2,030	2,507	3,655	3,480	4,342	4,988

Appendix table 6-5.
Global industry and trade data, by selected countries and industries: 1980-95
(Millions of 1987 U.S. dollars)

Activity and country	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Apparent consumption																
All countries[a]	97,812	109,320	120,984	138,826	173,861	183,042	184,920	204,326	237,267	259,147	274,307	284,787	293,639	305,913	332,492	368,438
United States	30,869	34,793	40,665	48,043	62,893	63,131	61,144	65,774	74,241	74,905	73,028	68,840	80,792	89,240	102,472	119,265
Canada	1,830	2,433	2,544	2,741	3,959	4,116	4,002	4,624	5,375	5,822	6,382	6,878	7,419	7,777	8,463	9,303
Japan	29,069	32,767	35,375	35,870	39,883	45,310	45,092	50,700	57,311	68,201	77,712	84,851	78,868	74,767	71,474	77,020
Germany[b]	7,324	8,187	9,096	11,554	14,879	13,909	13,445	13,898	15,594	17,251	19,613	25,046	24,316	27,008	30,083	32,124
France	6,027	6,402	6,825	7,862	8,944	9,667	10,482	11,340	12,790	13,256	13,274	13,493	14,218	14,882	16,649	18,129
United Kingdom	3,923	4,097	4,734	6,305	8,184	9,425	9,206	11,640	14,831	16,685	17,212	16,480	17,724	18,400	19,901	21,057
Italy	2,971	3,466	3,153	4,259	5,371	3,921	4,266	5,209	7,970	7,930	8,688	7,982	7,923	7,019	7,116	7,569
China	523	472	529	642	1,404	1,558	1,281	1,605	1,615	1,535	1,250	1,571	1,942	2,613	2,936	3,403
South Korea	172	194	264	475	578	777	1,232	1,040	1,416	1,518	1,931	2,082	1,795	3,102	4,813	5,578
Taiwan	314	387	449	672	1,045	1,149	2,171	2,898	3,181	3,140	3,203	3,164	2,847	3,156	3,059	3,456
Singapore	188	241	353	539	631	702	681	1,068	1,563	1,755	2,149	1,831	1,008	2,001	1,684	1,927
Hong Kong	246	188	234	394	525	331	276	382	777	881	1,735	1,742	1,903	1,265	1,599	1,805
Communications equipment																
Production																
All countries[a]	290,897	316,247	334,407	365,048	431,324	442,150	458,007	454,985	518,277	556,090	578,249	611,493	610,338	614,213	680,801	744,334
United States	87,355	92,424	100,495	106,308	126,020	124,240	125,609	97,200	107,135	110,403	115,578	120,187	134,943	137,208	157,579	196,082
Canada	3,335	3,429	3,425	3,493	4,209	4,517	4,839	5,694	6,133	6,671	6,597	7,920	8,985	8,449	9,163	9,725
Japan	87,834	103,847	111,155	123,447	151,674	153,469	150,053	152,510	178,777	194,236	208,703	227,701	203,181	183,903	201,403	198,080
Germany[b]	27,867	29,829	31,258	34,603	36,251	35,366	37,412	36,809	39,401	43,781	48,374	52,638	51,935	55,766	61,628	64,086
France	11,223	12,322	12,930	12,766	14,900	15,381	15,847	17,356	19,590	21,162	23,340	24,218	23,252	21,942	23,970	25,160
United Kingdom	12,801	12,706	13,465	14,804	17,735	17,814	17,831	18,935	20,404	21,101	21,320	19,482	19,313	18,468	21,614	23,346
Italy	5,773	5,654	5,880	6,432	6,090	6,003	6,612	7,467	7,769	8,791	8,923	8,977	8,560	7,877	8,472	8,991
China	6,667	5,900	5,569	6,866	9,319	17,104	16,274	19,161	27,477	31,198	23,943	25,996	31,431	42,977	47,068	54,174
South Korea	3,116	3,907	3,950	5,362	7,407	7,348	10,752	14,904	17,635	18,273	20,409	20,845	21,883	24,296	28,107	31,880
Taiwan	4,806	5,193	5,235	6,655	8,518	8,839	12,896	15,549	17,825	18,581	18,969	20,380	20,637	25,459	24,074	26,819
Singapore	2,327	2,518	2,321	3,013	4,214	4,075	5,334	7,968	10,178	6,403	6,617	6,892	7,271	7,367	8,179	9,255
Hong Kong	2,154	2,893	2,702	3,163	3,200	2,382	3,335	4,476	4,659	3,668	2,616	1,849	2,156	2,131	2,271	2,487
Exports																
All countries[a]	60,780	68,814	69,104	79,904	97,205	98,693	105,677	120,119	145,809	165,038	179,309	197,561	216,166	241,355	293,514	336,549
United States	7,588	7,965	7,942	10,711	12,290	11,327	12,703	14,882	19,470	22,741	26,583	29,547	33,425	37,829	46,960	59,055
Canada	957	1,272	1,324	1,518	2,225	2,319	2,195	2,277	2,206	2,699	3,008	3,522	4,381	4,313	5,008	5,945
Japan	18,962	23,901	23,540	27,309	35,172	35,996	35,737	35,272	41,207	44,623	46,281	48,687	47,377	45,116	47,414	51,308
Germany[b]	6,152	6,893	7,126	7,146	8,199	8,810	9,027	9,612	11,417	12,408	12,332	13,838	13,627	14,404	18,288	19,840
France	2,195	2,445	2,600	3,008	3,401	3,911	3,853	4,560	5,234	5,591	6,418	7,461	7,517	8,632	9,785	11,095
United Kingdom	2,141	2,368	2,594	2,715	3,228	3,741	4,072	4,603	6,227	7,593	8,555	9,478	9,778	12,716	15,532	17,613
Italy	1,355	1,438	1,645	1,740	2,097	2,310	2,337	2,470	2,954	3,141	3,221	3,399	3,618	4,300	4,758	5,375
China	68	90	103	150	371	107	292	545	1,501	1,345	3,068	3,469	4,494	5,000	6,889	7,765
South Korea	1,645	1,984	2,006	2,696	3,627	3,504	5,270	7,655	10,181	11,507	11,641	13,567	14,408	15,061	19,046	22,837
Taiwan	2,488	2,721	2,424	2,793	3,253	2,669	3,859	5,902	7,495	8,193	7,781	8,375	9,551	10,941	12,749	14,861
Singapore	2,127	1,981	1,969	2,207	2,764	2,625	3,664	5,385	8,040	9,157	10,049	11,702	13,255	15,957	22,812	25,615
Hong Kong	1,901	2,208	2,023	2,444	3,281	3,157	3,518	5,061	7,655	8,486	9,664	10,523	12,070	14,703	18,117	20,735

Appendix table 6-5.
Global industry and trade data, by selected countries and industries: 1980-95
(Millions of 1987 U.S. dollars)

Activity and country	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Imports																
All countries[a]	55,727	63,728	63,704	75,089	92,948	94,269	101,323	115,359	141,360	159,787	172,979	191,586	210,245	232,492	283,892	325,907
United States	10,562	13,842	14,661	20,440	29,458	28,897	28,899	29,672	32,147	37,334	35,043	36,932	44,765	48,983	57,347	67,408
Canada	1,862	2,190	2,068	2,558	3,343	2,935	3,426	3,738	4,515	5,157	6,129	7,150	7,292	7,362	9,116	10,970
Japan	1,134	1,257	1,242	1,651	2,110	1,943	2,453	3,303	4,660	6,308	7,493	7,780	8,187	10,631	14,213	17,864
Germany[b]	5,520	5,597	5,500	6,101	6,627	6,892	7,937	9,297	10,558	11,836	15,238	16,863	16,154	16,726	20,387	22,955
France	2,899	3,178	3,243	2,866	3,336	3,443	4,178	4,954	6,542	6,782	7,979	8,427	7,852	8,344	9,762	10,913
United Kingdom	3,075	4,176	4,719	5,143	5,305	5,611	5,905	7,149	9,005	10,513	10,303	10,180	10,638	11,937	13,629	14,711
Italy	2,415	2,306	2,437	2,244	2,714	3,090	3,562	4,537	5,800	6,545	7,470	7,934	7,451	6,316	7,703	8,590
China	510	766	518	720	2,013	4,074	2,340	2,810	4,437	4,249	4,012	4,935	6,463	10,214	12,557	14,319
South Korea	1,109	1,193	1,353	2,037	2,447	2,227	2,739	3,672	4,729	5,056	5,587	6,326	6,691	6,932	8,473	10,039
Taiwan	1,238	1,398	1,274	1,646	2,191	1,861	2,788	4,047	5,239	6,040	6,499	7,339	8,935	9,524	10,631	11,783
Singapore	1,928	2,117	2,318	2,940	3,317	3,090	3,631	4,728	6,405	7,532	9,198	10,640	11,913	14,655	19,883	22,459
Hong Kong	1,717	2,010	1,834	2,351	3,397	2,979	3,127	4,587	7,524	7,499	9,629	11,733	14,527	14,543	17,555	20,005
Apparent consumption																
All countries[a]	304,878	332,593	350,590	385,539	457,555	468,897	485,963	486,205	556,021	598,496	623,419	662,058	668,692	676,892	758,009	842,802
United States	92,798	100,904	109,824	119,569	147,252	145,571	146,040	116,970	126,352	132,664	133,042	137,632	157,714	161,353	184,154	224,877
Canada	4,471	4,657	4,493	4,906	5,874	5,705	6,615	7,723	8,995	9,810	10,483	12,448	13,022	12,612	14,570	15,776
Japan	75,559	88,220	95,788	105,850	129,019	130,088	127,380	131,023	154,478	169,194	183,689	201,279	178,098	162,871	182,354	193,040
Germany[b]	30,023	31,654	32,858	36,791	38,386	37,429	40,403	40,844	43,711	48,830	56,869	61,931	60,640	64,628	72,032	76,126
France	12,529	13,727	14,288	13,453	15,775	15,996	17,240	19,018	22,355	23,910	26,693	27,270	25,693	24,078	26,699	28,125
United Kingdom	14,329	15,172	16,310	17,985	20,708	20,722	20,794	22,759	24,912	26,131	25,449	22,826	22,903	21,243	24,055	25,699
Italy	7,332	7,052	7,279	7,579	7,481	7,635	8,699	10,445	11,704	13,353	14,359	14,765	13,726	11,478	13,172	14,039
China	7,113	6,582	5,991	7,449	10,999	21,082	18,355	21,493	30,608	34,282	25,315	27,964	34,070	48,964	53,848	60,930
South Korea	2,885	3,487	3,676	5,218	6,926	6,755	9,255	12,435	14,213	14,146	16,734	16,396	17,152	19,304	21,528	24,179
Taiwan	3,998	4,357	4,520	6,012	8,042	8,513	12,527	14,777	16,970	17,948	19,150	20,916	21,828	26,148	24,430	26,730
Singapore	2,478	2,981	2,995	4,111	5,225	4,978	5,913	8,211	9,889	6,312	7,450	7,792	8,155	8,742	9,084	10,048
Hong Kong	2,462	3,268	3,040	3,709	4,176	3,035	3,871	5,336	6,327	4,558	4,755	5,371	7,329	5,063	5,724	6,241
Drugs and medicines																
Production																
All countries[a]	98,776	106,970	112,241	117,460	123,348	127,252	135,094	143,922	152,126	155,274	159,293	164,947	169,931	171,968	182,830	191,749
United States	23,935	26,094	27,924	30,258	31,160	32,646	35,995	39,300	41,405	43,114	44,918	48,352	51,707	52,005	55,872	56,821
Canada	1,262	1,522	1,560	1,656	1,832	2,228	2,401	2,775	2,814	2,655	2,815	2,787	2,913	3,076	3,251	3,481
Japan	19,704	21,561	23,392	24,932	25,354	26,166	27,708	30,213	31,202	32,334	32,369	32,329	32,379	32,393	33,796	35,762
Germany[b]	9,203	11,164	11,917	12,716	14,096	13,901	12,882	11,794	12,009	13,054	12,725	13,075	12,569	13,757	14,764	15,891
France	3,681	4,550	5,516	5,157	5,296	5,639	5,813	5,764	6,270	7,315	7,815	8,336	9,206	10,002	10,224	10,825
United Kingdom	5,343	5,447	5,978	6,166	6,721	7,068	7,674	8,232	8,616	8,708	8,795	8,931	9,697	9,749	10,402	11,128
Italy	4,331	3,780	3,074	2,935	3,032	2,825	2,833	2,980	2,041	1,895	2,379	2,195	2,222	1,682	1,713	1,792
China	666	921	1,150	1,685	1,678	1,411	1,943	2,704	4,273	3,942	3,421	3,770	3,690	3,577	4,014	4,528
South Korea	940	987	1,150	1,273	1,476	1,558	1,748	1,820	2,416	1,986	2,388	2,206	2,324	2,403	2,505	2,722
Taiwan	208	232	295	298	338	379	469	376	421	358	367	376	404	422	421	442
Singapore	123	139	144	178	240	230	333	384	378	398	392	531	483	478	490	541
Hong Kong	52	66	60	43	63	54	67	69	73	69	60	67	69	61	56	59

Appendix table 6-5.
Global industry and trade data, by selected countries and industries: 1980-95

(Millions of 1987 U.S. dollars)

Activity and country	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Exports																
All countries[a]	17,365	19,856	21,948	21,085	22,010	23,820	25,931	26,271	30,203	29,988	31,134	34,209	38,162	43,509	47,145	50,951
United States	2,683	2,894	2,996	3,149	3,264	3,251	3,829	3,700	4,307	3,759	3,899	4,086	4,584	4,634	4,838	5,107
Canada	127	187	182	206	184	186	213	237	203	177	218	225	315	331	420	478
Japan	411	452	451	500	501	555	616	627	684	714	787	858	970	924	889	960
Germany[b]	2,717	3,211	3,244	3,321	3,602	3,917	4,031	4,049	4,733	4,694	4,706	5,267	5,422	6,033	6,826	7,423
France	1,623	1,877	3,617	2,071	2,124	2,309	2,393	2,384	2,598	2,815	2,860	3,104	3,499	4,094	4,156	4,445
United Kingdom	1,699	1,942	2,053	2,027	2,132	2,356	2,719	2,662	2,951	3,131	3,188	3,436	3,778	4,330	4,368	4,769
Italy	822	965	990	1,032	1,136	1,306	1,256	1,190	1,311	1,187	1,146	1,197	1,712	2,059	2,178	2,373
China	230	240	235	250	276	342	410	433	530	585	648	732	818	807	974	1,075
South Korea	21	30	32	33	38	48	73	75	75	87	92	110	130	134	154	170
Taiwan	28	41	37	36	33	31	39	48	57	68	64	74	80	64	70	71
Singapore	129	127	144	141	115	130	150	147	177	171	174	175	197	280	337	366
Hong Kong	152	184	183	190	180	204	256	331	406	384	407	513	583	525	567	636
Imports																
All countries[a]	15,287	17,536	19,768	18,886	19,952	21,467	23,750	24,470	28,190	28,195	29,647	32,572	36,126	41,238	44,758	48,432
United States	707	933	1,114	1,252	1,480	1,636	1,713	1,746	1,935	2,016	2,067	2,373	2,836	3,347	3,664	4,058
Canada	389	432	484	525	543	494	566	576	675	651	740	821	1,002	1,146	1,218	1,281
Japan	1,204	1,430	1,578	1,506	1,586	1,655	1,995	2,154	2,588	2,427	2,252	2,320	2,541	2,856	3,029	3,225
Germany[b]	1,522	1,561	1,997	1,700	1,827	2,068	2,380	2,429	2,699	2,561	2,785	3,407	3,543	3,592	4,233	4,550
France	867	1,029	1,026	1,068	1,087	1,170	1,286	1,356	1,711	1,958	2,196	2,408	2,774	3,146	3,459	3,726
United Kingdom	657	844	1,099	1,067	1,163	1,260	1,356	1,411	1,732	1,738	1,743	1,978	2,293	2,762	2,950	3,219
Italy	755	904	1,129	1,068	1,177	1,357	1,604	1,657	2,096	2,116	2,330	2,418	2,795	2,886	2,654	2,951
China	19	33	52	56	86	121	175	284	421	307	398	528	531	554	596	681
South Korea	76	88	114	132	155	149	152	163	213	213	236	289	304	359	396	457
Taiwan	118	144	165	167	194	202	223	237	245	236	244	267	328	366	407	437
Singapore	114	122	132	125	130	139	150	159	171	182	170	169	193	277	309	332
Hong Kong	225	261	258	254	267	304	348	426	475	451	504	631	678	646	730	776
Apparent consumption																
All countries[a]	102,098	110,902	116,917	121,920	128,271	132,446	141,045	150,322	159,607	162,822	167,508	174,009	179,908	183,424	195,517	205,037
United States	22,833	25,079	27,026	29,400	30,455	32,110	35,156	38,584	40,480	42,638	44,406	48,030	51,526	52,309	56,365	57,540
Canada	1,555	1,813	1,907	2,025	2,236	2,582	2,807	3,173	3,337	3,173	3,392	3,441	3,682	3,976	4,158	4,377
Japan	20,618	22,673	24,652	26,086	26,587	27,430	29,269	31,926	33,309	34,259	34,068	34,047	34,239	34,601	36,202	38,145
Germany[b]	9,240	10,968	12,139	12,597	13,949	13,822	13,053	12,006	12,118	13,048	12,936	13,600	13,148	14,056	15,271	16,354
France	3,370	4,218	3,920	4,726	4,845	5,139	5,369	5,399	6,106	7,243	7,949	8,508	9,461	10,204	10,696	11,286
United Kingdom	4,772	4,888	5,593	5,769	6,343	6,626	7,065	7,720	8,217	8,185	8,237	8,431	9,267	9,391	10,206	10,908
Italy	4,492	4,005	3,511	3,287	3,425	3,292	3,568	3,802	3,205	3,154	3,864	3,736	3,794	3,117	2,901	3,058
China	472	735	988	1,516	1,517	1,228	1,756	2,610	4,234	3,745	3,262	3,674	3,529	3,454	3,798	4,284
South Korea	999	1,050	1,239	1,379	1,600	1,668	1,842	1,924	2,570	2,130	2,552	2,407	2,526	2,656	2,780	3,051
Taiwan	303	343	430	436	505	557	660	575	621	539	560	584	668	736	773	818
Singapore	130	154	157	185	274	261	357	420	401	437	417	555	511	521	519	573
Hong Kong	165	191	183	157	197	208	226	251	248	237	264	321	319	321	369	387

[a]A total of 68 countries are included.

[b]German data are for the former West Germany only.

[c]High-tech industries include aircraft, office and computing machinery, communication equipment, and drugs and medicines.

SOURCE: WEFA/ICF Global Industry Service (Eddystone, PA: Spring 1997).

See figures 6-2, 6-3, 6-4, 6-5, 6-6, 6-7, 6-8, 6-9, and 6-10.

Appendix table 6-6.
U.S. trade in advanced technology products: 1990-96
(Millions of U.S. dollars)

Product category	1990	1991	1992	1993	1994	1995	1996
U.S. exports							
Total	94,727.6	101,641.5	107,091.3	108,356.6	120,743.3	138,416.5	154,909.2
Biotechnology	661.2	706.0	745.8	892.7	1,029.2	1,055.5	1,197.4
Life science	4,860.3	5,492.5	5,826.0	6,133.7	6,821.3	8,571.5	9,255.6
Opto-electronics	524.0	627.9	604.0	701.7	926.3	1,164.6	1,418.6
Computers and telecommunications	31,375.0	30,726.3	32,569.2	34,198.8	39,859.3	47,890.5	52,780.1
Electronics	7,535.5	8,925.6	9,968.4	11,987.4	16,235.6	31,391.7	36,548.0
Flexible manufacturing	3,095.7	3,251.4	3,412.6	4,039.0	5,191.0	7,469.6	8,583.6
Advanced materials	6,403.0	6,226.1	7,153.6	8,404.2	10,406.2	4,519.5	1,693.6
Aerospace	36,972.7	41,904.5	42,445.5	37,348.1	34,955.4	30,983.1	38,088.7
Weapons	687.9	851.7	784.1	745.1	730.6	1,040.5	1,466.9
Nuclear technology	1,260.5	1,304.2	1,502.4	1,375.6	1,560.6	1,272.0	1,258.9
Software technology	1,351.8	1,625.2	2,079.7	2,530.2	3,027.9	3,057.9	2,617.7
U.S. imports							
Total	59,381.2	63,252.1	71,871.5	81,233.1	98,116.5	124,787.0	130,361.6
Biotechnology	32.1	48.7	48.8	59.2	73.3	444.8	548.8
Life science	3,417.6	4,305.8	4,821.4	4,607.5	4,821.5	6,607.2	7,291.6
Opto-electronics	1,138.0	2,038.4	2,570.3	2,531.0	2,544.1	2,816.6	3,172.8
Computers and telecommunications	30,110.5	29,153.4	33,848.5	39,790.2	49,440.0	58,865.6	61,346.1
Electronics	10,955.3	12,391.7	14,205.3	17,824.2	25,507.3	38,232.6	36,756.8
Flexible manufacturing	1,676.6	1,789.7	1,684.5	2,222.2	2,899.7	4,947.5	5,740.7
Advanced materials	1,045.6	1,051.5	1,548.4	2,052.9	1,091.8	1,527.6	1,219.8
Aerospace	10,713.8	12,106.0	12,687.2	11,613.3	11,135.6	10,540.5	12,805.4
Weapons	129.9	167.8	156.9	164.7	143.9	205.0	265.5
Nuclear technology	4.5	3.0	5.2	7.9	22.7	39.8	626.1
Software technology	157.4	196.0	295.0	360.0	436.5	559.8	588.0
U.S. trade balance							
Total	35,346.4	38,389.4	35,219.8	27,123.6	22,626.8	13,629.5	24,547.6
Biotechnology	629.1	657.3	697.0	833.5	956.0	610.7	648.6
Life science	1,442.8	1,186.7	1,004.6	1,526.2	1,999.7	1,964.3	1,964.1
Opto-electronics	–613.9	–1,410.5	–1,966.3	–1,829.3	–1,617.8	–1,652.0	–1,754.2
Computers and telecommunications	1,264.5	1,572.9	–1,279.3	–5,591.4	–9,580.7	–10,975.1	–8,566.0
Electronics	–3,419.9	–3,466.1	–4,236.9	–5,836.8	–9,271.7	–6,840.9	–208.8
Flexible manufacturing	1,419.1	1,461.7	1,728.1	1,816.8	2,291.3	2,522.1	2,842.9
Advanced materials	5,357.5	5,174.6	5,605.3	6,351.3	9,314.4	2,991.9	473.8
Aerospace	26,258.9	29,798.5	29,758.3	25,734.8	23,819.7	20,442.7	25,283.3
Weapons	558.0	683.9	627.2	580.4	586.7	835.6	1,201.4
Nuclear technology	1,256.0	1,301.1	1,497.2	1,367.7	1,537.9	1,232.2	632.9
Software technology	1,194.5	1,429.2	1,784.7	2,170.3	2,591.4	2,498.1	2,029.7

SOURCE: U.S. Bureau of the Census, Foreign Trade Division <<http://www.fedstats.gov>>, 1997.

See figure 6-11.

Appendix table 6-7.
U.S. receipts and payments of royalties and fees associated with affiliated and unaffiliated foreign residents: 1987-95
(Millions of U.S. dollars)

	Total	Foreign residents	
		Affiliated	Unaffiliated
Receipts			
1987	9,914	7,629	2,285
1988	11,802	9,156	2,646
1989	13,064	10,207	2,857
1990	16,634	13,251	3,384
1991	18,107	14,395	3,712
1992	19,715	15,718	3,997
1993	20,323	15,707	4,616
1994	22,274	17,422	4,849
1995	26,953	21,619	5,333
Payments			
1987	1,844	1,296	547
1988	2,585	1,410	1,175
1989	2,602	1,778	824
1990	3,135	2,206	929
1991	4,076	2,996	1,080
1992	5,074	3,381	1,694
1993	4,765	3,364	1,401
1994	5,518	3,810	1,708
1995	6,312	5,148	1,163
Balance			
1987	8,070	6,333	1,738
1988	9,217	7,746	1,471
1989	10,462	8,429	2,033
1990	13,499	11,045	2,455
1991	14,031	11,399	2,632
1992	14,641	12,337	2,303
1993	15,558	12,343	3,215
1994	16,756	13,612	3,141
1995	20,641	16,471	4,170

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Bureau of Economic Analysis, *Survey of Current Business,* Vol. 76, No. 11 (November 1996).

See figure 6-12. *Science & Engineering Indicators – 1998*

Appendix table 6-8.
U.S. receipts and payments of royalties and license fees generated from the exchange and use of industrial processes with unaffiliated foreign residents, by region/country: 1987-95
(Millions of U.S. dollars)

	Receipts									Payments									Balance								
Region/country	1987	1988	1989	1990	1991	1992	1993	1994	1995	1987	1988	1989	1990	1991	1992	1993	1994	1995	1987	1988	1989	1990	1991	1992	1993	1994	1995
All countries	1,678	1,962	2,051	2,333	2,434	2,525	2,820	3,043	3,316	459	525	612	665	796	818	1,054	1,056	819	1,219	1,437	1,439	1,668	1,638	1,707	1,776	1,987	2,497
Canada	87	60	62	79	62	47	41	53	49	9	11	8	16	11	10	8	11	8	78	49	54	63	51	37	33	42	41
Europe	446	517	530	630	575	637	642	771	737	320	355	433	482	637	635	820	734	482	126	162	97	148	–62	2	–178	37	255
European Union	353	410	378	500	475	498	496	601	652	248	279	342	360	426	417	472	420	401	105	131	36	140	49	81	24	181	251
France	73	82	52	78	91	64	89	129	68	33	37	51	54	73	D	92	104	109	40	45	1	24	18	64	–3	25	–41
Germany[a]	79	73	77	107	97	108	109	142	162	100	112	137	133	182	D	187	128	109	–21	–39	–60	–26	–85	108	–78	14	53
Italy	57	73	68	105	70	99	69	71	58	25	20	22	29	34	24	9	6	7	32	53	46	76	36	75	60	65	51
United Kingdom	60	67	81	91	106	103	103	114	109	72	90	102	111	106	125	123	104	95	–12	–23	–21	–20	0	–22	–20	10	14
All other	93	107	152	130	100	263	272	315	340	72	76	91	122	211	D	409	392	162	21	31	61	8	–111	263	–137	–77	178
So./Central America	64	48	54	59	85	73	D	84	69	5	*	*	*	1	D	D	D	D	59	48	54	59	83	NA	D	NA	NA
Brazil	19	7	14	8	8	6	7	8	8	*	*	*	*	*	*	2	2	2	19	7	14	8	8	6	5	6	6
Mexico	14	13	18	23	31	29	28	33	22	3	*	*	*	*	1	*	1	D	11	13	18	23	30	28	28	32	NA
All other	31	28	22	28	46	38	D	43	39	2	NA	NA	NA	1	D	D	D	D	29	28	22	28	45	38	D	NA	NA
Africa	D	22	24	22	34	27	36	26	21	*	4	*	0	*	*	*	1	*	0	18	24	22	34	27	36	25	21
Middle East	D	18	17	22	25	21	33	21	38	2	3	4	3	4	5	9	9	15	–2	15	13	19	21	16	24	12	23
Asia & the Pacific	936	1,185	1,248	1,465	1,638	1,704	1,966	2,077	2,382	95	112	120	160	140	152	200	283	299	841	1,073	1,128	1,305	1,498	1,552	1,766	1,794	2,083
Hong Kong	4	6	7	6	6	11	12	8	21	1	*	*	0	*	*	2	3	D	3	6	7	6	6	11	10	5	NA
India	18	40	26	21	14	34	D	28	35	*	*	*	*	*	*	0	*	*	18	40	26	21	14	34	NA	28	35
Indonesia	5	5	8	11	20	13	20	20	14	0	*	0	0	0	*	0	0	*	5	5	8	11	20	13	20	20	14
Japan	723	883	897	1,028	1,219	1,268	1,434	1,373	1,501	88	108	109	141	138	145	191	262	280	635	775	788	887	1,081	1,123	1,243	1,111	1,221
Malaysia	*	*	2	2	2	7	18	19	D	0	0	0	0	0	0	*	0	*	NA	0	2	2	2	7	18	19	NA
The Philippines	3	4	4	4	2	3	D	1	5	0	*	1	0	0	*	*	*	*	3	4	3	4	2	3	NA	1	5
Singapore	30	13	8	19	21	20	20	73	32	*	0	0	0	*	D	*	*	*	30	13	8	19	21	20	20	73	32
South Korea	34	107	167	249	225	220	278	416	585	*	*	D	D	*	1	1	6	D	34	107	167	249	225	219	277	410	NA
Taiwan	21	46	34	55	57	42	34	39	65	*	*	D	1	*	2	2	2	*	21	46	34	54	57	40	32	37	65
All other	98	81	95	70	72	86	D	100	D	6	4	10	D	2	D	4	10	NA	92	77	85	70	70	86	NA	90	NA
All other	145	112	116	56	15	16	NA	11	20	28	40	47	7	58	NA	NA	NA	NA	117	72	69	52	13	NA	NA	NA	NA

* = less than $500,000; D = withheld to avoid disclosing operations of individual companies; NA = not available

NOTE: Industrial processes include patents and other proprietary inventions and technology.

[a]German data prior to 1990 are for the former West Germany only. Beginning in 1990, these data are also for the former East Germany.

SOURCE: U.S. Bureau of Economic Analysis, *Survey of Current Business*, Vol. 76, No. 11 (November 1996): 90-93.

See figure 6-13.

Appendix table 6-9.
R&D performance in the United States, by industry: 1973-94
(Millions of current purchasing power parity dollars)

Industry	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Total, all industries	21,250	22,887	24,206	26,997	29,825	33,304	38,226	44,505	51,810	58,650	65,268	74,800	84,239	87,823	92,155	97,015	102,055	109,727	116,952	119,110	117,400	119,595
Total manufacturing	20,535	22,119	23,471	26,151	28,867	32,075	36,686	42,690	49,904	56,178	61,931	69,895	77,525	80,377	84,311	86,502	88,024	88,934	88,506	90,177	90,932	96,307
Food, drink & tobacco	269	298	335	355	415	472	528	620	638	779	827	1,082	1,136	1,286	1,206	1,229	1,275	1,414	1,277	1,386	1,345	1,476
Textiles, footwear & leather	64	69	70	82	83	89	101	115	116	136	150	182	218	246	243	260	260	297	283	275	313	344
Wood, cork & furniture	71	84	88	107	123	126	139	148	161	159	152	143	147	144	137	173	197	245	210	247	259	269
Paper & printing	194	237	249	313	333	387	445	495	566	566	552	593	576	541	604	788	879	1,059	1,235	1,245	1,643	1,723
Chemicals	3,040	3,541	3,907	4,285	4,611	5,133	5,877	6,844	8,335	9,516	10,219	11,027	11,436	11,582	12,139	13,816	15,134	16,750	18,382	18,981	20,706	20,701
Industrial chemicals	1,418	1,643	1,766	1,925	2,085	2,272	2,521	2,859	3,540	4,112	4,272	4,608	5,056	5,185	5,535	6,161	6,261	7,004	7,587	7,437	8,248	7,557
Pharmaceuticals	698	807	981	1,091	1,117	1,308	1,517	1,777	2,085	2,492	2,913	3,319	3,484	3,658	4,100	4,906	5,808	6,287	7,061	7,944	9,146	9,633
Petroleum refining	498	622	693	767	918	1,060	1,262	1,552	1,936	2,141	2,258	2,312	2,220	2,018	1,897	1,997	2,180	2,306	2,498	2,277	2,152	1,950
Rubber & plastics products	426	469	467	502	491	493	577	656	775	771	776	788	676	721	607	752	885	1,153	1,236	1,323	1,161	1,561
Stone, clay & glass	199	217	233	263	287	324	356	406	460	513	624	733	835	950	995	738	637	616	483	510	538	591
Basic metal industries	308	358	443	506	538	560	634	728	878	987	1,085	717	740	803	730	637	686	739	714	522	669	690
Ferrous metals	163	181	215	256	284	314	375	443	555	613	637	381	324	345	252	253	251	238	228	224	289	247
Nonferrous metals	145	177	228	250	254	246	259	285	323	374	448	336	416	458	478	384	435	501	486	298	380	443
Fabricated metal products and machinery	16,232	17,138	17,941	20,023	22,234	24,718	28,318	32,970	38,306	43,003	47,780	55,040	62,076	64,443	67,874	68,440	68,507	67,201	65,297	66,351	64,628	69,645
Fabricated metal products	291	313	324	358	386	384	455	550	624	625	701	842	829	895	783	881	904	939	974	1,017	1,158	1,111
Nonelectrical machinery	816	882	976	1,085	1,225	1,400	1,611	1,939	2,417	2,411	2,392	2,404	2,394	2,396	2,428	2,682	2,729	2,753	3,555	3,534	3,431	4,004
Office machinery & computers	1,733	2,103	2,220	2,402	2,655	2,883	3,214	3,962	4,401	5,667	6,635	8,100	9,822	9,794	9,347	10,444	11,705	11,693	11,220	11,404	9,313	9,664
Electrical machinery	1,834	2,047	2,121	2,382	2,295	2,476	2,775	3,048	3,476	2,858	2,815	1,848	1,277	1,250	1,239	1,419	2,126	3,444	3,091	2,722	2,537	2,664
Electronic equipment & components	3,068	2,964	2,984	3,254	3,591	4,031	5,049	6,127	6,853	8,065	9,866	11,930	13,155	13,730	14,609	12,709	11,192	9,956	10,324	10,638	10,812	12,674
Shipbuilding	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Motor vehicles	2,405	2,389	2,340	2,778	3,358	3,879	4,509	4,955	4,806	4,797	5,318	6,057	6,984	9,732	9,279	10,085	11,020	10,256	10,388	9,924	11,793	13,406
Aerospace	5,052	5,278	5,713	6,339	7,033	7,536	8,041	9,198	11,968	14,451	15,406	18,858	22,231	21,050	24,458	24,168	22,331	20,635	16,629	17,158	15,056	14,260
Transport equipment	72	87	90	94	120	131	159	162	147	199	381	399	371	493	509	522	508	470	411	412	409	421
Instruments	961	1,075	1,173	1,331	1,571	1,998	2,505	3,029	3,614	3,930	4,266	4,602	5,013	5,103	5,222	5,530	5,992	7,055	8,705	9,542	10,119	11,441
Other manufacturing	158	177	205	217	243	266	288	364	444	519	541	379	361	382	383	420	449	613	624	660	831	868
Total services	715	768	735	845	958	1,229	1,540	1,815	1,906	2,472	3,337	4,905	6,714	7,446	7,844	10,513	14,031	20,793	28,446	28,933	26,468	23,288

SOURCE: Organisation for Economic Co-operation and Development, Analytical Business Enterprise R&D Database (Paris: April 1997).

See figure 6-15.

Appendix table 6-10.
R&D performance in Japan, by industry: 1973-94
(Millions of current purchasing power parity dollars)

Industry	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Total, all industries	5,052	5,559	6,037	6,643	7,445	8,322	10,249	12,536	15,257	17,703	20,411	23,284	27,283	28,313	30,945	35,483	41,400	47,450	50,304	51,203	49,123	49,590
Total manufacturing	4,792	5,287	5,692	6,289	7,027	7,889	9,725	11,906	14,580	16,978	19,545	22,296	26,282	27,278	29,862	34,176	39,891	45,575	48,418	49,016	46,892	47,373
Food, drink & tobacco	137	135	165	180	204	223	287	389	419	500	536	603	670	741	921	961	1,102	1,205	1,164	1,242	1,363	1,291
Textiles, footwear & leather	82	73	81	74	67	88	126	136	271	227	228	270	287	290	317	358	409	452	474	635	505	424
Wood, cork & furniture	12	15	22	26	29	34	41	44	52	57	92	60	56	72	77	88	151	126	160	147	168	177
Paper & printing	99	63	69	62	70	71	74	86	87	121	166	195	233	233	263	335	398	442	473	400	394	405
Chemicals	1,135	1,299	1,419	1,516	1,702	1,831	2,290	2,845	3,172	3,661	4,180	4,720	5,282	5,562	6,371	7,164	8,199	8,900	9,769	10,412	10,208	10,365
Industrial chemicals	674	787	813	855	937	979	1,203	1,470	1,677	1,962	2,169	2,527	2,730	2,968	3,408	3,804	4,314	4,612	4,944	5,148	5,058	5,058
Pharmaceuticals	250	277	341	387	425	489	680	757	918	1,051	1,298	1,339	1,570	1,582	1,814	2,046	2,293	2,643	3,047	3,446	3,414	3,494
Petroleum refining	50	54	61	64	95	90	100	259	171	191	223	254	313	317	334	368	423	471	457	482	444	438
Rubber & plastics products	161	181	204	210	244	273	306	359	406	457	491	600	668	695	815	946	1,169	1,175	1,321	1,336	1,292	1,375
Stone, clay & glass	108	133	150	184	186	212	280	332	353	410	507	595	800	868	848	976	1,113	1,102	1,341	1,148	1,077	1,009
Basic metal industries	310	375	413	453	475	517	614	806	998	1,117	1,164	1,268	1,566	1,691	1,666	1,819	1,987	2,275	2,628	2,452	2,358	2,085
Ferrous metals	231	281	320	352	366	392	461	587	713	801	833	871	1,104	1,181	1,168	1,227	1,348	1,556	1,859	1,668	1,552	1,313
Nonferrous metals	78	94	93	101	109	125	152	219	284	316	331	397	462	510	498	591	639	720	769	783	805	773
Fabricated metal products and machinery	2,858	3,134	3,307	3,724	4,214	4,822	5,919	7,128	9,086	10,723	12,504	14,384	17,176	17,578	19,140	22,197	26,220	30,715	32,008	32,167	30,426	31,144
Fabricated metal products	80	81	105	143	136	145	210	208	272	284	371	378	472	438	452	440	550	664	709	679	653	617
Nonelectrical machinery	466	647	683	663	843	764	936	1,174	1,389	1,596	1,772	1,997	2,300	2,341	2,536	2,779	3,389	4,104	4,334	4,265	4,349	4,615
Office machinery & computers	148	109	157	192	239	283	362	449	583	715	901	1,377	1,590	1,721	2,224	2,962	4,087	4,584	4,812	4,413	4,351	4,294
Electrical machinery	570	558	597	728	809	970	1,198	1,122	1,437	1,691	2,048	2,439	2,830	2,866	3,172	3,646	4,356	5,101	5,215	5,181	5,266	5,561
Electronic equipment & components	756	865	818	989	922	1,082	1,357	1,980	2,521	3,196	3,760	4,158	5,173	5,135	5,585	6,311	6,656	7,434	8,078	8,545	7,690	8,190
Shipbuilding	44	46	45	41	35	30	31	34	34	41	52	40	50	38	42	46	59	66	76	103	99	87
Motor vehicles	590	631	685	761	926	1,177	1,379	1,601	2,102	2,374	2,576	3,019	3,494	3,697	3,774	4,523	5,389	6,547	6,527	6,785	5,798	5,519
Aerospace	56	62	74	27	67	73	94	91	103	120	198	103	176	250	282	240	311	407	549	353	381	316
Transport equipment	28	12	14	26	36	46	54	72	113	119	117	111	165	170	100	75	85	89	89	92	95	104
Instruments	120	121	129	153	202	251	297	396	533	588	711	759	926	921	973	1,173	1,338	1,719	1,621	1,752	1,744	1,842
Other manufacturing	53	59	67	69	80	89	95	138	142	161	167	201	212	244	260	279	312	356	400	415	393	473
Total services	225	220	294	299	373	373	464	559	602	637	770	884	881	916	961	1,130	1,362	1,667	1,648	1,993	2,034	2,042

SOURCE: Organisation for Economic Co-operation and Development, Analytical Business Enterprise R&D Database (Paris: April 1997).

See figure 6-15.

Appendix table 6-11.
R&D performance in the European Union, by industry: 1973-94
(Millions of current purchasing power parity dollars)

Industry	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Total, all industries	12,282	13,777	15,467	17,134	18,782	21,543	25,759	28,828	32,759	36,067	38,292	42,036	47,819	51,872	55,935	60,724	66,263	71,186	73,569	78,669	76,804	77,813
Total manufacturing	11,201	12,632	14,047	15,551	17,016	19,682	23,429	26,505	30,062	33,094	35,185	38,801	44,001	46,241	49,994	54,249	59,107	63,665	65,399	68,365	66,476	67,486
Food, drink & tobacco	247	297	328	363	390	452	520	574	594	632	646	750	826	887	938	981	1,134	1,214	1,245	1,368	1,408	1,413
Textiles, footwear & leather	133	161	161	158	152	173	181	167	169	178	192	220	235	245	241	248	252	262	341	365	397	447
Wood, cork & furniture	14	16	16	17	20	37	55	61	64	76	85	100	119	121	122	122	129	130	157	160	160	184
Paper & printing	82	88	95	101	109	128	155	172	188	206	221	245	263	281	307	318	362	400	394	393	379	422
Chemicals	2,824	3,232	3,707	4,149	4,554	5,071	5,776	6,516	7,586	8,339	8,748	9,536	10,724	11,396	12,698	14,138	15,417	16,632	16,783	17,889	17,596	17,667
Industrial chemicals	1,641	1,913	2,205	2,476	2,689	2,869	3,167	3,639	4,257	4,597	4,732	5,227	5,942	6,308	6,896	7,563	8,006	8,366	8,284	8,528	8,112	8,099
Pharmaceuticals	753	855	990	1,121	1,248	1,521	1,801	1,944	2,205	2,526	2,788	3,003	3,353	3,638	4,341	5,004	5,674	6,423	6,694	7,565	7,683	7,819
Petroleum refining	223	241	267	291	300	318	354	403	514	545	552	588	637	647	639	669	711	805	821	781	715	645
Rubber & plastics products	208	224	244	261	316	363	454	530	610	672	677	718	791	803	821	902	1,026	1,038	984	1,015	1,086	1,104
Stone, clay & glass	156	177	182	193	210	250	302	332	359	392	424	444	479	475	514	547	619	617	647	682	670	691
Basic metal industries	312	395	433	454	467	506	586	650	733	799	846	867	918	911	937	1,002	1,045	1,080	1,106	1,124	1,041	1,089
Ferrous metals	223	262	297	305	309	334	404	441	504	547	581	592	637	619	634	692	713	717	770	811	738	787
Nonferrous metals	89	133	135	149	159	172	182	208	229	252	265	275	281	292	303	309	332	363	336	313	303	302
Fabricated metal products and machinery	7,377	8,209	9,061	10,021	10,998	12,937	15,732	17,899	20,259	22,356	23,900	26,525	30,320	31,787	34,076	36,738	39,993	43,150	44,547	46,184	44,616	45,358
Fabricated metal products	117	139	164	189	222	305	415	490	574	688	754	802	900	928	957	1,019	1,086	1,231	1,110	1,128	1,125	1,184
Nonelectrical machinery	820	893	986	1,065	1,201	1,521	1,952	2,162	2,412	2,690	2,846	3,006	3,402	3,558	3,907	4,362	5,000	5,079	5,267	5,819	5,670	5,899
Office machinery & computers	374	415	481	596	731	816	932	1,004	1,166	1,326	1,460	1,755	2,074	2,107	2,302	2,604	2,851	2,980	3,118	3,036	2,761	2,470
Electrical machinery	993	1,159	1,282	1,400	1,462	1,650	1,867	2,059	2,320	2,578	2,722	3,115	3,751	4,220	4,439	4,508	4,437	4,445	5,232	5,249	5,214	5,251
Electronic equipment & components	1,796	2,077	2,378	2,637	2,934	3,649	4,520	5,262	5,993	6,583	7,138	7,786	8,685	8,843	9,652	10,317	11,042	11,888	11,294	11,719	11,446	11,967
Shipbuilding	86	88	88	92	95	93	86	90	95	110	122	140	145	158	152	139	157	196	180	240	233	239
Motor vehicles	1,263	1,361	1,489	1,667	1,901	2,211	2,673	2,993	3,371	3,816	4,192	4,696	5,288	5,656	6,147	6,925	7,751	8,592	9,306	10,170	10,262	10,425
Aerospace	1,695	1,825	1,920	2,074	2,117	2,303	2,823	3,310	3,730	3,914	3,997	4,492	5,246	5,455	5,621	5,892	6,649	7,553	7,681	7,392	6,403	6,358
Transport equipment	24	28	29	44	63	62	66	75	90	108	132	153	155	161	171	175	167	207	322	294	312	339
Instruments	209	224	242	258	273	327	397	453	509	543	537	579	675	702	727	795	852	980	1,036	1,137	1,190	1,225
Other manufacturing	56	58	64	94	117	129	120	134	110	118	122	114	118	138	162	156	156	179	180	199	207	216
Total services	749	868	1,003	1,128	1,300	1,387	1,518	1,618	1,849	2,093	2,289	2,454	2,853	4,634	4,948	5,614	6,292	6,626	7,147	8,613	9,114	9,121

NOTE: The member countries of the European Union are Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom.

SOURCE: Organisation for Economic Co-operation and Development, Analytical Business Enterprise R&D Database (Paris: April 1997).

See figure 6-15.

Appendix table 6-12.
Number of U.S. patents granted, by inventor residence, inventor sector, and year of grant: 1963-95

Inventor residence/sector	Total 1963-95	1963-82	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
TOTAL	2,401,282	1,234,646	57,888	56,860	67,200	71,661	70,860	82,952	77,924	95,537	90,364	96,513	97,441	98,342	101,675	101,419
Inventor residence																
U.S. origin	1,497,969	865,097	33,896	32,871	38,367	39,555	38,126	43,520	40,496	50,185	47,387	51,182	52,252	53,231	56,065	55,739
Foreign origin	903,313	369,549	23,992	23,989	28,833	32,106	32,734	39,432	37,428	45,352	42,977	45,331	45,189	45,111	45,610	45,680
Argentina	698	417	18	21	20	11	17	18	16	20	17	16	20	24	32	31
Australia	9,010	3,584	266	237	292	340	374	389	416	503	432	463	410	378	467	459
Austria	8,653	4,083	229	267	256	318	357	345	337	399	393	359	370	313	289	338
Belgium	8,626	4,459	224	205	240	240	243	295	302	359	313	324	324	350	351	397
Brazil	874	330	27	19	20	30	27	34	29	36	41	61	40	57	60	63
Bulgaria	465	246	13	19	22	21	21	32	23	16	27	10	5	5	4	1
Canada	43,063	20,252	990	1,000	1,206	1,342	1,314	1,594	1,489	1,959	1,862	2,035	1,964	1,944	2,008	2,104
China	545	107	0	1	2	1	9	23	47	52	47	52	41	53	48	62
Czechoslovakia	2,090	1,637	50	38	33	54	35	46	33	34	39	27	17	13	19	15
Denmark	5,026	2,521	121	125	150	187	182	204	151	221	158	210	193	197	207	199
Finland	4,843	1,330	125	116	167	200	210	275	232	230	304	331	360	293	312	358
France	72,156	35,247	1,975	1,895	2,162	2,400	2,369	2,874	2,661	3,140	2,866	3,030	3,029	2,908	2,779	2,821
Germany	188,830	91,571	5,467	5,477	6,323	6,718	6,856	7,885	7,353	8,353	7,612	7,680	7,310	6,893	6,732	6,600
Hong Kong	843	243	18	14	24	25	31	34	41	48	52	50	60	60	57	86
Hungary	2,242	901	112	106	111	108	131	127	94	129	93	85	88	61	46	50
India	492	231	4	14	12	10	18	12	14	14	23	22	24	30	27	37
Ireland	862	268	24	18	29	30	28	38	43	65	54	55	55	53	50	52
Israel	4,866	1,317	114	109	162	179	189	245	238	326	299	305	335	314	350	384
Italy	26,920	11,960	752	625	794	919	995	1,183	1,076	1,297	1,260	1,209	1,271	1,286	1,215	1,078
Japan	313,267	77,458	8,149	8,793	11,110	12,746	13,209	16,557	16,158	20,168	19,525	21,027	21,926	22,293	22,384	21,764
Liechtenstein	473	274	19	12	16	13	16	16	10	11	15	11	16	11	16	17
Luxembourg	567	198	26	27	24	37	31	22	29	29	17	27	26	28	22	24
Mexico	1,614	1,076	35	32	42	32	37	49	44	39	32	28	39	45	44	40
Netherlands	22,609	11,104	619	626	726	766	722	922	806	1,060	959	992	854	801	853	799
New Zealand	1,107	452	44	38	50	33	52	68	55	58	52	41	44	39	37	44
Norway	2,890	1,415	65	66	87	90	81	135	121	126	112	111	108	117	126	130
Poland	626	451	26	20	15	11	14	13	8	14	17	8	5	8	8	8
South Africa	2,615	1,238	73	60	82	96	88	107	103	134	115	105	97	93	101	123
South Korea	4,649	102	14	26	30	41	46	84	97	159	225	404	538	779	943	1,161
Spain	2,798	1,219	49	50	69	78	97	115	126	131	130	153	133	159	141	148
Sweden	23,939	13,370	685	623	701	857	883	948	777	837	768	716	627	635	706	806
Switzerland	38,553	21,623	1,147	1,017	1,174	1,233	1,212	1,373	1,245	1,363	1,284	1,335	1,196	1,126	1,169	1,056
Taiwan	9,229	316	88	65	99	174	208	343	457	591	732	904	1,000	1,189	1,443	1,620
United Kingdom	85,837	51,143	2,132	1,930	2,269	2,494	2,405	2,775	2,579	3,094	2,789	2,799	2,425	2,294	2,234	2,475
U.S.S.R.	6,963	5,129	209	222	214	147	116	121	96	161	174	178	66	65	53	12
Venezuela	414	135	10	5	11	15	21	24	20	23	20	25	22	31	23	29
Others (113 countries)	4,059	2,142	73	71	89	110	90	107	102	153	119	143	151	166	254	289
Inventor sector																
U.S. corporation	1,145,904	654,518	25,783	25,677	29,999	31,181	29,490	33,726	31,437	38,664	36,093	39,133	40,307	41,826	44,035	44,035
U.S. government	44,445	29,623	1,005	1,048	1,235	1,139	1,022	981	733	880	983	1,183	1,161	1,166	1,258	1,028
U.S. individual	365,564	211,276	8,553	7,574	8,911	9,265	9,477	10,887	10,122	13,028	12,542	13,207	12,751	12,281	12,805	12,885
Foreign corporation	711,249	269,314	18,856	19,246	23,238	25,957	26,545	32,371	30,960	37,506	35,548	37,594	38,237	38,401	38,788	38,688
Foreign government	9,638	3,748	369	339	438	483	479	555	453	441	423	472	463	434	296	245
Foreign individual	124,482	66,167	3,322	2,976	3,379	3,636	3,847	4,432	4,219	5,018	4,775	4,924	4,522	4,234	4,493	4,538

SOURCE: U.S. Patent and Trademark Office, *Patenting Trends in the United States, 1963-95* (Washington, DC: 1996).

See figures 6-16, 6-17, and 6-18.

Appendix table 6-13.
Patent classes most emphasized by inventors from the United States patenting in the United States: 1985 and 1995

Patent class number and title		Patents granted to inventors from: All countries 1985	All countries 1995	United States 1985	United States 1995	Activity index 1985	Activity index 1995
166	Wells	336	338	306	285	1.783	1.667
606	Surgery	154	602	103	484	1.310	1.590
604	Surgery	298	843	232	674	1.524	1.581
607	Surgery: light, thermal, and electrical application	94	293	71	211	1.479	1.424
585	Chemistry of hydrocarbon compounds	225	223	168	158	1.462	1.401
206	Special receptacle or package	262	404	183	280	1.368	1.370
128	Surgery	290	846	164	582	1.107	1.360
220	Receptacles	182	230	101	155	1.087	1.332
248	Supports	211	247	135	166	1.253	1.329
380	Cryptography	47	204	34	137	1.416	1.328
052	Static structures (e.g., buildings)	313	315	201	207	1.257	1.299
426	Food or edible material: processes, compositions, and products	438	479	287	309	1.283	1.275
273	Amusement devices: games	108	331	65	213	1.178	1.272
134	Cleaning and liquid contact with solids	84	224	58	144	1.352	1.271
436	Chemistry: analytical and immunological testing	126	280	90	180	1.399	1.271
326	Electronic digital logic circuitry	115	333	67	211	1.141	1.253
435	Chemistry: molecular biology and microbiology	385	1,346	229	852	1.165	1.252
530	Chemistry: natural resins or derivatives; peptides	134	271	85	171	1.242	1.248
342	Communications: directive radio wave systems and devices	109	274	57	172	1.024	1.241
395	Information processing system organization	550	3,025	355	1,874	1.264	1.225
062	Refrigeration	423	515	240	315	1.111	1.209
210	Liquid purification or separation	452	782	254	478	1.100	1.209
239	Fluid sprinkling, spraying, and diffusing	230	240	132	146	1.124	1.203
424	Drug, bio-affecting and body treating compositions	404	1,166	221	705	1.071	1.195
015	Brushing, scrubbing, and general cleaning	135	229	84	138	1.218	1.192
362	Illumination	171	330	109	199	1.248	1.192
379	Telephonic communications	244	733	147	438	1.180	1.181
297	Chairs and seats	154	223	69	132	0.877	1.170
361	Electricity: electrical systems and devices	463	763	269	450	1.138	1.166
200	Electricity: circuit makers and breakers	273	207	159	122	1.140	1.165
340	Communications: electrical	381	598	184	351	0.946	1.161
137	Fluid handling	531	427	324	250	1.195	1.158
235	Registers	106	321	46	187	0.850	1.152
029	Metal working	604	699	365	404	1.183	1.143
536	Organic compounds—part of the class 532–570 series	95	320	39	183	0.804	1.131
174	Electricity: conductors and insulators	201	349	120	199	1.169	1.127
280	Land vehicles	285	581	93	331	0.639	1.126
439	Electrical connectors	496	810	349	459	1.378	1.120
073	Measuring and testing	938	1,100	526	619	1.098	1.113
053	Package making	289	351	138	197	0.935	1.110
324	Electricity: measuring and testing	409	893	237	501	1.135	1.109
315	Electric lamp and discharge devices: systems	236	332	145	185	1.203	1.102
162	Paper making and fiber liberation	163	208	75	115	0.901	1.093
502	Catalyst, solid sorbent, or support therefor: product	425	302	279	167	1.285	1.093
341	Coded data generation or conversion	170	280	84	152	0.968	1.073
330	Amplifiers	247	241	119	130	0.943	1.067
427	Coating processes	555	691	298	370	1.051	1.059
385	Optical waveguides	178	504	100	269	1.100	1.055
568	Organic compounds—part of the class 532–570 series	365	302	221	160	1.186	1.048
156	Adhesive bonding and miscellaneous chemical manufacture	546	779	327	412	1.173	1.046
414	Material or article handling	316	324	170	171	1.053	1.044

NOTES: The activity index is the percentage of the patents in a class that are granted to inventors from one country, divided by the percentage of all patents that have inventors from that country in that year. Listing is limited to U.S. Patent and Trademark Office classes that received at least 200 patents from all countries in 1995.

SOURCE: U.S. Patent and Trademark Office, Office of Information Systems, TAF Program, *Country Activity Index Report, Corporate Patenting 1995,* report prepared for the National Science Foundation (Washington, DC: 1996).

See text table 6-6.

Appendix table 6-14.
Patent classes most emphasized by inventors from Japan patenting in the United States: 1985 and 1995

Patent class number and title		Patents granted to inventors from: All countries 1985	All countries 1995	Japan 1985	Japan 1995	Activity index 1985	Activity index 1995
369	Dynamic information storage or retrieval	277	658	158	508	2.671	3.003
354	Photography	355	471	245	332	3.232	2.742
084	Music	101	220	63	151	2.921	2.670
355	Photocopying	422	753	213	489	2.364	2.526
358	Facsimile or television recording	248	629	169	395	3.191	2.443
400	Typewriting machines	212	206	86	118	1.900	2.228
365	Static information storage and retrieval	228	897	95	489	1.951	2.121
360	Dynamic magnetic information storage or retrieval	476	789	271	411	2.666	2.026
257	Active solid-state devices (e.g., transistors, solid-state diodes)	294	1,308	107	675	1.704	2.008
430	Radiation imagery chemistry: process, composition, or products	745	1,421	392	732	2.464	2.004
347	Incremental printing of symbolic information	320	486	184	247	2.693	1.977
359	Optics: systems (including communication) and element	549	1083	198	521	1.689	1.871
310	Electrical generator or motor structure	307	386	104	175	1.586	1.764
348	Television	569	1028	179	461	1.473	1.744
148	Metal treatment	225	352	68	156	1.415	1.724
345	Selective visual display systems	159	356	48	146	1.414	1.595
271	Sheet feeding or delivering	174	247	54	101	1.453	1.591
372	Coherent light generators	127	364	27	140	0.996	1.496
118	Coating apparatus	208	288	53	107	1.193	1.445
382	Image analysis	120	323	43	120	1.678	1.445
242	Winding, tensioning, or guiding	367	310	118	113	1.506	1.418
318	Electricity: motive power systems	361	371	120	134	1.557	1.405
123	Internal-combustion engines	1,103	727	558	260	2.369	1.391
333	Wave transmission lines and networks	167	213	29	75	0.813	1.370
364	Electrical computers and data processing systems	695	1,529	221	512	1.489	1.303
428	Stock material or miscellaneous articles	1,280	1,890	382	630	1.397	1.297
371	Error detection/correction and fault detection/recovery	142	431	28	141	0.923	1.273
425	Plastic article or earthenware shaping or treating	263	290	33	92	0.588	1.234
437	Semiconductor device manufacturing: process	380	1362	106	431	1.306	1.231
363	Electric power conversion systems	130	206	28	65	1.009	1.227
501	Compositions: ceramic	142	215	47	67	1.550	1.212
313	Electric lamp and discharge devices	221	282	50	87	1.059	1.200
303	Fluid-pressure and analogous brake systems	78	202	24	62	1.441	1.194
327	Miscellaneous active electrical nonlinear devices	302	627	88	192	1.364	1.191
356	Optics: measuring and testing	340	669	79	200	1.088	1.163
455	Telecommunications	158	403	40	120	1.185	1.158
523	Synthetic resins or natural rubbers—part of the class 520 series	277	210	58	62	0.980	1.149
429	Chemistry: electrical current producing apparatus, product and process	221	387	47	114	0.996	1.146
250	Radiant energy	538	993	149	287	1.297	1.124
395	Information processing system organization	550	3,025	131	871	1.115	1.120
341	Coded data generation or conversion	170	280	52	79	1.432	1.098
381	Electrical audio signal processing systems and devices	141	217	46	61	1.528	1.094
526	Synthetic resins or natural rubbers—part of the class 520 series	284	363	80	101	1.319	1.082
074	Machine element or mechanism	365	290	121	80	1.552	1.073
417	Pumps	306	237	64	65	0.979	1.067
525	Synthetic resins or natural rubbers—part of the class 520 series	551	726	132	199	1.122	1.066
439	Electrical connectors	496	810	38	219	0.359	1.052
060	Power plants	380	547	85	147	1.047	1.045
101	Printing	197	269	29	72	0.689	1.041
524	Synthetic resins or natural rubbers—part of the class 520 series	664	725	98	194	0.691	1.041
219	Electric heating	627	527	191	139	1.426	1.026

NOTES: The activity index is the percentage of the patents in a class that are granted to inventors from one country, divided by the percentage of all patents that have inventors from that country in that year. Listing is limited to U.S. Patent and Trademark Office classes that received at least 200 patents from all countries in 1995.

SOURCE: U.S. Patent and Trademark Office, Office of Information Systems, TAF Program, *Country Activity Index Report, Corporate Patenting 1995,* report prepared for the National Science Foundation (Washington, DC: 1996).

See text table 6-6.

Appendix table 6-15.
Patent classes most emphasized by inventors from Germany patenting in the United States: 1985 and 1995

Patent class number and title		Patents granted to inventors from: All countries 1985	All countries 1995	Germany 1985	Germany 1995	Activity index 1985	Activity index 1995
303	Fluid-pressure and analogous brake systems	78	202	21	68	2.577	4.576
101	Printing	197	269	52	90	2.526	4.548
188	Brakes	182	223	23	61	1.210	3.719
198	Conveyors: power-driven	233	271	27	51	1.109	2.558
548	Organic compounds—part of the class 532–570 series	212	281	41	52	1.851	2.516
072	Metal deforming	299	235	34	41	1.088	2.372
546	Organic compounds—part of the class 532–570 series	209	232	23	40	1.053	2.344
123	Internal-combustion engines	1,103	727	167	123	1.449	2.300
271	Sheet feeding or delivering	174	247	22	38	1.210	2.091
378	X-ray or gamma ray systems or devices	122	234	27	35	2.118	2.033
425	Plastic article or earthenware shaping or treating	263	290	42	43	1.528	2.016
568	Organic compounds—part of the class 532-570 series	365	302	44	43	1.154	1.936
549	Organic compounds—part of the class 532-570 series	214	235	31	33	1.386	1.909
074	Machine element or mechanism	365	290	40	40	1.049	1.875
528	Synthetic resins or natural rubbers—part of the class 520 series	411	531	58	69	1.351	1.767
524	Synthetic resins or natural rubbers—part of the class 520 series	664	725	85	94	1.225	1.763
451	Abrading	195	209	25	27	1.227	1.756
242	Winding, tensioning, or guiding	367	310	60	40	1.565	1.754
423	Chemistry of inorganic compounds	590	390	85	49	1.379	1.708
525	Synthetic resins or natural rubbers—part of the class 520 series	551	726	51	87	0.886	1.629
252	Compositions	785	1,039	73	119	0.890	1.557
248	Supports	211	247	23	28	1.043	1.541
204	Chemistry: electrical and wave energy	326	426	21	45	0.617	1.436
417	Pumps	306	237	43	25	1.345	1.434
073	Measuring and testing	938	1,100	109	115	1.112	1.421
422	Chemical apparatus and process disinfecting, deodorizing, preserving, or sterilizing	211	526	27	55	1.225	1.421
106	Compositions: coating or plastic	207	393	36	41	1.664	1.418
297	Chairs and seats	154	223	27	23	1.678	1.402
222	Dispensing	249	339	21	34	0.807	1.363
239	Fluid sprinkling, spraying, and diffusing	230	240	23	24	0.957	1.359
075	Specialized metallurgical processes, compositions for	190	212	21	21	1.058	1.347
414	Material or article handling	316	324	32	32	0.969	1.343
205	Electrolysis: processes, compositions used therein	301	266	31	26	0.986	1.329
526	Synthetic resins or natural rubbers—part of the class 520 series	284	363	19	35	0.640	1.311
342	Communications: directive radio wave systems and devices	109	274	12	26	1.054	1.290
053	Package making	289	351	31	32	1.027	1.239
523	Synthetic resins or natural rubbers—part of the class 520 series	277	210	30	19	1.037	1.230
514	Drug, bio-affecting and body treating compositions	1,564	2,360	196	209	1.199	1.204
501	Compositions: ceramic	142	215	13	19	0.876	1.201
363	Electric power conversion systems	130	206	8	18	0.589	1.188
162	Paper making and fiber liberation	163	208	16	18	0.939	1.176
502	Catalyst, solid sorbent, or support therefor: product	425	302	20	26	0.450	1.170
310	Electrical generator or motor structure	307	386	36	33	1.122	1.162
210	Liquid purification or separation	452	782	43	66	0.911	1.147
137	Fluid handling	531	427	56	36	1.009	1.146
060	Power plants	380	547	44	46	1.108	1.143
118	Coating apparatus	208	288	26	24	1.196	1.133
015	Brushing, scrubbing, and general cleaning	135	229	21	19	1.489	1.128
280	Land vehicles	285	581	32	48	1.075	1.123
427	Coating processes	555	691	62	57	1.069	1.121
219	Electric heating	627	527	45	43	0.687	1.109
536	Organic compounds—part of the class 532–570 series	95	320	15	26	1.511	1.105

NOTES: The activity index is the percentage of the patents in a class that are granted to inventors from one country, divided by the percentage of all patents that have inventors from that country in that year. Listing is limited to U.S. Patent and Trademark Office classes that received at least 200 patents from all countries in 1995.

SOURCE: U.S. Patent and Trademark Office, Office of Information Systems, TAF Program, *Country Activity Index Report, Corporate Patenting 1995,* report prepared for the National Science Foundation (Washington, DC: 1996).

See text table 6-6.

Appendix table 6-16.
Patent classes most emphasized by inventors from Taiwan patenting in the United States: 1985 and 1995

Patent class number and title		Patents granted to inventors from: All countries 1985	All countries 1995	Taiwan 1985	Taiwan 1995	Activity index 1985	Activity index 1995
437	Semiconductor device manufacturing: process	380	1,362	0	152	0.000	15.159
345	Selective visual display systems	159	356	0	10	0.000	3.816
074	Machine element or mechanism	365	290	0	8	0.000	3.747
297	Chairs and seats	154	223	0	6	0.000	3.655
313	Electric lamp and discharge devices	221	282	0	6	0.000	2.890
257	Active solid-state devices (e.g., transistors, solid-state diodes)	294	1,308	0	27	0.000	2.804
327	Miscellaneous active electrical nonlinear devices	302	627	0	12	0.000	2.600
362	Illumination	171	330	0	6	0.000	2.470
425	Plastic article or earthenware shaping or treating	263	290	0	5	0.000	2.342
248	Supports	211	247	0	4	0.000	2.200
200	Electricity: circuit makers and breakers	273	207	0	3	0.000	1.969
333	Wave transmission lines and networks	167	213	0	3	0.000	1.913
280	Land vehicles	285	581	0	8	0.000	1.870
084	Music	101	220	0	3	0.000	1.852
365	Static information storage and retrieval	228	897	0	12	0.000	1.817
375	Pulse or digital communications	177	573	0	7	0.000	1.659
385	Optical waveguides	178	504	0	6	0.000	1.617
439	Electrical connectors	496	810	0	9	0.000	1.509
156	Adhesive bonding and miscellaneous chemical manufacture	546	779	0	8	0.000	1.395
264	Plastic and nonmetallic article shaping or treating: process	493	693	0	7	0.000	1.372
568	Organic compounds—part of the class 532–570 series	365	302	0	3	0.000	1.349
206	Special receptacle or package	262	404	0	4	0.000	1.345
400	Typewriting machines	212	206	0	2	0.000	1.319
075	Specialized metallurgical processes, compositions for	190	212	0	2	0.000	1.281
501	Compositions: ceramic	142	215	0	2	0.000	1.264
382	Image analysis	120	323	0	3	0.000	1.262
273	Amusement devices: games	108	331	0	3	0.000	1.231
188	Brakes	182	223	0	2	0.000	1.218
015	Brushing, scrubbing, and general cleaning	135	229	0	2	0.000	1.186
427	Coating processes	555	691	0	6	0.000	1.179
072	Metal deforming	299	235	0	2	0.000	1.156
330	Amplifiers	247	241	0	2	0.000	1.127
372	Coherent light generators	127	364	0	3	0.000	1.120
271	Sheet feeding or delivering	174	247	0	2	0.000	1.100
429	Chemistry: electrical current producing apparatus, product, and process	221	387	0	3	0.000	1.053
423	Chemistry of inorganic compounds	590	390	1	3	6.917	1.045
205	Electrolysis: processes, compositions used therein	301	266	0	2	0.000	1.021
364	Electrical computers and data processing systems	695	1,529	0	11	0.000	0.977
029	Metal working	604	699	0	5	0.000	0.972
341	Coded data generation or conversion	170	280	0	2	0.000	0.970
204	Chemistry: electrical and wave energy	326	426	0	3	0.000	0.957
371	Error detection/correction and fault detection/recovery	142	431	0	3	0.000	0.945
524	Synthetic resins or natural rubbers—part of the class 520 series	664	725	0	5	0.000	0.937
359	Optics: systems (including communication) and element	549	1,083	0	7	0.000	0.878
052	Static structures (e.g., buildings)	313	315	0	2	0.000	0.862
370	Multiplex communications	276	800	0	5	0.000	0.849
326	Electronic digital logic circuitry	115	333	0	2	0.000	0.816
053	Package making	289	351	0	2	0.000	0.774
219	Electric heating	627	527	0	3	0.000	0.773
148	Metal treatment	225	352	0	2	0.000	0.772
528	Synthetic resins or natural rubbers—part of the class 520 series	411	531	0	3	0.000	0.767

NOTES: The activity index is the percentage of the patents in a class that are granted to inventors from one country, divided by the percentage of all patents that have inventors from that country in that year. Listing is limited to U.S. Patent and Trademark Office classes that received at least 200 patents from all countries in 1995.

SOURCE: U.S. Patent and Trademark Office, Office of Information Systems, TAF Program, *Country Activity Index Report, Corporate Patenting 1995,* report prepared for the National Science Foundation (Washington, DC: 1996).

See text table 6-7.

Appendix table 6-17.
Patent classes most emphasized by inventors from South Korea patenting in the United States: 1985 and 1995

Patent class number and title		Patents granted to inventors from: All countries 1985	All countries 1995	South Korea 1985	South Korea 1995	Activity index 1985	Activity index 1995
313	Electric lamp and discharge devices	221	282	0	27	0.000	7.550
437	Semiconductor device manufacturing: process	380	1,362	0	123	0.000	7.122
348	Television	569	1,028	0	85	0.000	6.520
358	Facsimile or television recording	248	629	0	42	0.000	5.266
369	Dynamic information storage or retrieval	277	658	0	39	0.000	4.674
360	Dynamic magnetic information storage or retrieval	476	789	0	46	0.000	4.598
365	Static information storage and retrieval	228	897	0	44	0.000	3.868
242	Winding, tensioning, or guiding	367	310	0	13	0.000	3.307
219	Electric heating	627	527	0	22	0.000	3.292
371	Error detection/correction and fault detection/recovery	142	431	0	16	0.000	2.927
315	Electric lamp and discharge devices: systems	236	332	0	12	0.000	2.850
318	Electricity: motive power systems	361	371	0	13	0.000	2.763
381	Electrical audio signal processing systems and devices	141	217	0	7	0.000	2.544
257	Active solid-state devices (e.g., transistors, solid-state diodes)	294	1,308	0	38	0.000	2.291
341	Coded data generation or conversion	170	280	0	8	0.000	2.253
015	Brushing, scrubbing, and general cleaning	135	229	0	6	0.000	2.066
062	Refrigeration	423	515	0	13	0.000	1.991
340	Communications: electrical	381	598	0	15	0.000	1.978
327	Miscellaneous active electrical nonlinear devices	302	627	0	15	0.000	1.887
501	Compositions: ceramic	142	215	0	5	0.000	1.834
326	Electronic digital logic circuitry	115	333	0	7	0.000	1.658
400	Typewriting machines	212	206	0	4	0.000	1.531
528	Synthetic resins or natural rubbers—part of the class 520 series	411	531	1	10	8.178	1.485
355	Photocopying	422	753	0	14	0.000	1.466
084	Music	101	220	0	4	0.000	1.434
548	Organic compounds—part of the class 532-570 series	212	281	0	5	0.000	1.403
359	Optics: systems (including communication) and element	549	1,083	0	19	0.000	1.383
280	Land vehicles	285	581	0	9	0.000	1.222
380	Cryptography	47	204	0	3	0.000	1.160
347	Incremental printing of symbolic information	320	486	0	7	0.000	1.136
523	Synthetic resins or natural rubbers—part of the class 520 series	277	210	0	3	0.000	1.127
148	Metal treatment	225	352	0	5	0.000	1.120
345	Selective visual display systems	159	356	0	5	0.000	1.108
375	Pulse or digital communications	177	573	0	8	0.000	1.101
427	Coating processes	555	691	0	9	0.000	1.027
156	Adhesive bonding and miscellaneous chemical manufacture	546	779	0	10	0.000	1.012
524	Synthetic resins or natural rubbers—part of the class 520 series	664	725	0	9	0.000	0.979
372	Coherent light generators	127	364	0	4	0.000	0.867
361	Electricity: electrical systems and devices	463	763	0	8	0.000	0.827
333	Wave transmission lines and networks	167	213	0	2	0.000	0.740
134	Cleaning and liquid contact with solids	84	224	0	2	0.000	0.704
546	Organic compounds—part of the class 532-570 series	209	232	0	2	0.000	0.680
549	Organic compounds—part of the class 532-570 series	214	235	0	2	0.000	0.671
354	Photography	355	471	0	4	0.000	0.670
364	Electrical computers and data processing systems	695	1,529	0	13	0.000	0.670
239	Fluid sprinkling, spraying, and diffusing	230	240	0	2	0.000	0.657
330	Amplifiers	247	241	0	2	0.000	0.654
525	Synthetic resins or natural rubbers—part of the class 520 series	551	726	0	6	0.000	0.652
271	Sheet feeding or delivering	174	247	0	2	0.000	0.639
422	Chemical apparatus and process disinfecting, deodorizing, preserving, or sterilizing	211	526	0	4	0.000	0.600
356	Optics: measuring and testing	340	669	0	5	0.000	0.589
455	Telecommunications	158	403	0	3	0.000	0.587

NOTES: The activity index is the percentage of the patents in a class that are granted to inventors from one country, divided by the percentage of all patents that have inventors from that country in that year. Listing is limited to U.S. Patent and Trademark Office classes that received at least 200 patents from all countries in 1995.

SOURCE: U.S. Patent and Trademark Office, Office of Information Systems, TAF Program, *Country Activity Index Report, Corporate Patenting 1995,* report prepared for the National Science Foundation (Washington, DC: 1996).

See text table 6-7.

Appendix table 6-18.
Patents granted in selected countries, by inventor residence: 1985-95

Granting country	Total patents	Patents to non-residents as percentage of total	Percentage of patents granted to residents of: United States	Japan	Germany	France	United Kingdom	Italy	Sweden	India	Former Soviet Union	Other
1985												
Japan	50,100	15.5	46.4	0.0	19.6	6.4	5.4	1.5	2.3	0.0	1.4	17.0
Germany	33,377	60.4	29.2	23.9	0.0	12.4	6.7	2.8	2.8	0.0	1.7	20.5
France	37,530	73.8	27.4	15.8	25.9	0.0	5.9	4.1	2.4	0.0	1.3	17.0
United Kingdom	34,480	82.3	28.6	20.8	20.9	8.4	0.0	2.9	2.2	0.0	0.6	15.6
Italy	47,924	79.0	6.1	2.3	8.0	4.2	2.0	0.0	0.4	0.0	0.0	77.0
Canada	18,697	92.8	54.8	11.7	8.8	5.6	5.3	1.5	1.8	0.0	0.4	10.0
Mexico	1,374	93.4	56.3	6.6	7.6	7.0	4.0	2.6	1.5	0.0	0.5	14.0
Brazil	3,934	84.6	37.0	7.3	20.7	9.9	4.0	4.6	2.8	0.0	0.4	13.3
South Korea	2,268	84.6	30.4	42.3	6.2	5.4	3.5	1.8	1.4	0.0	0.0	9.1
Soviet Union	74,745	2.0	13.7	8.4	16.9	8.2	3.1	3.9	2.7	0.0	0.0	42.9
India	1,814	76.2	33.5	6.4	11.2	8.1	10.1	3.4	1.3	0.0	3.0	23.0
1990												
Japan	59,401	15.2	45.5	0.0	21.3	7.7	5.1	2.4	2.4	0.0	1.1	14.4
Germany	42,860	61.2	27.8	28.4	0.0	10.8	6.5	3.7	2.7	0.0	0.7	19.3
France	35,149	74.6	24.9	18.2	26.9	0.0	6.0	4.2	2.2	0.0	0.6	17.0
United Kingdom	32,179	86.4	25.6	20.8	22.8	9.1	0.0	3.2	2.0	0.0	0.4	15.9
Italy	17,794	98.7	23.7	9.4	28.5	12.4	6.8	0.0	2.4	0.0	0.1	16.7
Canada	14,187	92.2	52.2	13.7	8.3	6.0	5.4	2.0	1.8	0.0	0.3	10.3
Mexico	1,752	92.0	63.4	5.4	7.3	5.1	3.2	2.4	0.8	0.1	0.2	12.2
Brazil	3,355	86.5	41.4	6.6	16.1	9.4	7.4	4.4	2.3	0.0	0.7	11.8
South Korea	7,762	67.1	23.0	66.7	2.5	1.8	0.8	1.1	0.3	0.0	0.0	3.8
Soviet Union	84,658	1.4	12.0	8.1	18.8	7.8	3.6	6.7	3.8	0.0	0.0	39.2
India	1,611	81.0	35.3	9.3	14.6	6.2	7.8	3.1	1.2	0.0	3.4	19.1
1994												
Japan	82,400	11.7	50.1	0.0	18.9	6.5	4.1	2.5	1.8	0.0	0.0	16.3
Germany	57,803	64.1	28.2	32.5	0.0	9.8	5.9	4.0	2.0	0.0	0.0	17.4
France	54,964	75.3	25.0	23.5	25.5	0.0	5.3	3.9	1.6	0.0	0.0	15.2
United Kingdom	48,772	89.3	24.9	25.7	22.0	8.0	0.0	3.3	1.5	0.0	0.0	14.5
Italy	37,096	85.5	24.8	13.4	27.6	10.2	5.9	0.0	1.9	0.0	0.1	16.1
Canada	11,641	92.7	51.3	18.8	7.6	5.6	4.6	1.5	1.0	0.0	0.0	9.5
Mexico	4,367	93.4	58.0	4.3	9.7	5.1	4.3	2.4	1.1	0.0	0.0	14.9
Brazil	2,469	83.0	41.3	6.6	12.5	6.9	4.9	6.4	2.7	0.0	0.0	18.7
South Korea	11,683	50.6	22.9	62.6	3.9	2.5	1.1	0.8	0.5	0.0	0.0	5.8
Russian Federation	20,581	22.0	4.0	2.1	4.7	1.1	0.8	1.5	0.6	0.0	0.0	85.2
India	1,735	74.2	42.9	6.1	12.4	7.1	6.6	2.6	1.6	0.0	0.2	20.4

Appendix table 6-18.
Patents granted in selected countries, by inventor residence: 1985-95

Granting country	Total patents	Patents to non-residents as percentage of total	Percentage of patents granted to residents of: United States	Japan	Germany	France	United Kingdom	Italy	Sweden	India	Former Soviet Union	Other
1995												
Japan	109,100	13.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Germany	56,633	65.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
France	55,681	72.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
United Kingdom	48,350	89.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Italy	29,898	97.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Canada	9,139	91.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mexico	3,538	95.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Brazil	2,659	80.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
South Korea	12,512	47.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Russian Federation	25,633	18.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
India	1,613	74.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA = not available

NOTE: German data are for the former West Germany only.

SOURCE: World Intellectual Property Organization, “Industrial Property Statistics” (Geneva: 1985-95).

See figures 6-18 and 6-19.

Appendix table 6-19.
Venture capital under management in the United States and disbursements: 1969-95
(Millions of U.S. dollars)

	New capital committed	Total venture capital under management	Disbursements
1969	121	NA	100
1970	78	NA	83
1971	91	NA	134
1972	30	NA	128
1973	33	NA	201
1974	25	NA	100
1975	20	NA	92
1976	28	NA	107
1977	15	NA	159
1978	216	NA	288
1979	170	NA	457
1980	661	NA	608
1981	867	NA	1,155
1982	1,400	NA	1,454
1983	3,400	6,208	2,581
1984	3,200	9,497	2,771
1985	2,300	11,614	2,681
1986	3,300	14,693	3,242
1987	4,200	17,799	3,977
1988	2,947	20,217	3,847
1989	2,399	23,154	3,395
1990	1,847	24,139	1,922
1991	1,271	24,758	1,348
1992	2,548	25,868	2,540
1993	2,545	28,925	3,071
1994	3,765	32,670	2,741
1995	4,227	37,154	3,859

NA = not available

SOURCE: Venture Economics, *1996 Venture Capital Annual Review* (Boston: 1996).

See figure 6-23. *Science & Engineering Indicators – 1998*

Appendix table 6-20.
Capital commitments by limited partners to institutionally funded independent private venture capital funds: 1978-95
(Millions of U.S. dollars)

	Total	Corporations	Endowments & foundations	Foreign investors	Individuals & families	Insurance companies	Pension funds
1978	216	22	19	38	70	35	32
1979	170	28	17	26	39	7	53
1980	661	127	92	55	102	88	197
1981	867	142	102	90	201	132	200
1982	1,423	175	96	188	290	200	474
1983	3,408	415	267	531	715	410	1,070
1984	3,185	463	178	573	467	419	1,085
1985	2,327	274	181	548	303	254	767
1986	3,332	350	209	361	392	348	1,672
1987	4,184	460	418	544	502	628	1,632
1988	2,947	324	341	401	249	277	1,355
1989	2,399	483	296	299	146	303	872
1990	1,847	125	232	138	211	171	970
1991	1,271	55	306	149	156	69	536
1992	2,548	84	471	283	280	370	1,060
1993	2,545	206	271	109	187	268	1,504
1994	3,765	341	805	91	444	357	1,727
1995	4,227	87	959	NA	741	784	1,656

SOURCE: Venture Economics, *1996 Venture Capital Annual Review* (Boston: 1996).

Science & Engineering Indicators – 1998

Appendix table 6-21.
U.S. venture capital disbursements, by industry category: 1986-95

Industry category	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Millions of U.S. dollars disbursed										
Commercial communications	145	171	105	146	80	20	53	134	46	191
Telephone and data communications	346	306	369	342	268	169	366	384	294	399
Computer hardware and systems	550	523	422	354	259	168	138	98	171	183
Software and services	353	417	338	379	362	337	562	630	378	760
Other electronics	386	361	319	300	147	129	140	86	167	141
Biotechnology	183	265	322	245	181	112	261	283	303	205
Medical/health care related	335	481	451	522	380	152	442	437	473	547
Energy related	23	53	15	18	22	3	30	7	2	3
Industrial automation	73	55	31	28	16	3	7	30	16	26
Industrial products and machinery	118	183	198	192	77	47	77	54	56	125
Consumer related	285	642	425	392	225	135	196	314	173	405
Other products and services	445	520	852	477	284	83	271	613	663	874
Total	3,242	3,977	3,847	3,395	2,301	1,358	2,543	3,071	2,741	3,859
Percentage of total venture capital disbursements										
Commercial communications	4	4	3	4	3	2	2	4	2	5
Telephone and data communications	10	8	9	10	12	12	14	13	11	10
Computer hardware and systems	17	13	11	10	11	12	5	3	6	5
Software and services	11	11	9	11	16	25	22	21	14	20
Other electronics	12	9	8	9	6	9	6	3	6	4
Biotechnology	6	7	8	7	8	8	10	9	11	5
Medical/health care related	10	12	12	15	17	11	17	14	17	14
Energy related	1	1	1	1	1	1	1	<1	<1	<1
Industrial automation	2	1	1	1	1	1	1	1	<1	<1
Industrial products and machinery	4	5	5	6	3	3	3	2	2	3
Consumer related	9	16	11	12	10	10	8	10	6	11
Other products and services	14	13	22	14	12	6	11	20	24	23
Total	100	100	100	100	100	100	100	100	100	100

NOTE: Details may not sum to totals because of rounding.

SOURCE: Venture Economics, *1996 Venture Capital Annual Review* (Boston: 1996).

See figure 6-24.

Appendix table 6-22.
U.S. venture capital disbursements, by stage: 1986-95

Stage	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Millions of U.S. dollars disbursed										
Seed	101	87	114	138	72	56	74	213	116	232
Startup	526	452	349	288	170	76	209	217	408	663
Other early stage	509	603	585	537	391	295	336	319	481	580
Expansion	1,416	1,773	1,510	1,596	1,194	734	1,400	1,668	1,232	1,614
Leveraged buyout/acquisition	601	804	1,127	710	414	46	176	172	166	338
Other	89	258	162	126	60	151	347	481	339	432
Total disbursements	3,242	3,977	3,847	3,395	2,301	1,358	2,542	3,070	2,741	3,859
Percentage of total venture capital disbursements										
Seed	3	2	3	4	3	4	3	7	4	6
Startup	16	11	9	8	7	6	8	7	15	17
Other early stage	16	15	15	16	17	22	13	10	18	15
Expansion	44	45	40	47	52	54	55	54	45	42
Leveraged buyout/acquisition	18	20	29	21	18	3	7	6	0	9
Other	3	7	4	4	3	11	14	16	12	11
Total	100	100	100	100	100	100	100	100	100	100

NOTE: Details may not sum to totals because of rounding.

SOURCE: Venture Economics, *1996 Venture Capital Annual Review* (Boston: 1996).

See figure 6-25.

Appendix table 6-23.
Leading indicators of technological competitiveness: 1996
(Index)

Region/country	National orientation	Socioeconomic infrastructure	Technological infrastructure	Productive capacity
Singapore	88.4	75.7	41.6	54.0
South Korea	78.9	64.6	44.4	50.6
Taiwan	90.2	75.8	42.9	49.9
China	65.3	44.8	39.3	32.8
India	57.4	46.0	39.3	49.1
Indonesia	54.8	35.2	17.8	19.6
Malaysia	81.0	62.5	31.9	43.1
Philippines	73.6	66.2	35.3	48.1
Thailand	63.5	48.7	28.2	33.1
Hungary	67.0	47.7	36.4	39.8
Poland	69.7	57.4	38.1	39.8
Russia	48.9	50.7	55.6	42.6
Argentina	41.5	49.4	27.4	31.0
Brazil	60.0	53.1	37.4	40.3
Mexico	54.8	45.5	30.2	31.7
Venezuela	56.6	55.2	38.4	40.7
South Africa	49.2	51.0	40.3	30.0

NOTES: For score and indicator calculations, raw data were transformed into scales of 0-100 for each indicator component and then averaged to generate comparable indicators with a 0-100 range. For survey items, 100 represents the highest response category for each question; for statistical data, 100 typically represents the value attained by the country with the largest value among the 30 countries included in the study. In the indicator formulations cited below, each term carries equal weight.

National orientation (NO)—evidence that a nation is taking directed action to achieve technological competitiveness. These actions could take place in the business, government, or cultural sector, or any combination of the three.
Indicator formulation: NO = Q1 + (Q2 + Q3)/2 + Q4 + F1V96
Data used: Published data from Frost and Sullivan's "Political Risk Letter" for 1996 rating each country's investment risk (F1V96); and survey data assessing each country's national strategy to promote high-tech development (Q1), social influences favoring technological change (Q2 and Q3), and entrepreneurial spirit (Q4).

Socioeconomic infrastructure (SE)—assesses the social and economic institutions that support and maintain the physical, human, organizational, and economic resources essential to the functioning of a modern, technology-based industrial nation.
Indicator formulation: SE = Q5 + Q10 + HMHS93
Data used: Published data on the percentage of students enrolled in secondary and tertiary education (HMHS93) from the Harbison-Myers Skills Index for 1993; and survey data assessing each country's efforts to attract foreign investment (Q10) and the mobility of capital (Q5).

Technological infrastructure (TI)—assesses the institutions and resources that contribute to a nation's capacity to develop, produce, and market new technology.
Indicator formulation: TI = (Q7 + Q8)/2 + Q9 + Q11 + EDP96 + S&E
Data used: Published data from UN Statistical Yearbook on the number of scientists and engineers involved in research (S&E), national purchases of electronic data processing equipment (EDP96) from *Elsevier Yearbook of World Electronics Data* (1996); and survey data assessing linkages of R&D to industry (Q9), output of indigenous academic science and engineering (Q7and Q8), and ability to make effective use of technological knowledge (Q11).

Productive capacity (PC)—assesses the phsical and human resources devoted to manufacturing products and the efficiency with which those resources are employed.
Indicator formulation: PC = Q6 + Q12 + Q13 + A2696
Data used: Published data on electronics production (A2696) from *Elsevier Yearbook of World Electronics Data* (1996); and survey data assessing the supply and quality of skilled labor (Q6), capability of the indigenous management (Q13), and the existence of indigenous suppliers of components for technology-intensive products (Q12).

SOURCE: J. David Roessner, Alan L. Porter, Nils Newman, and Honguang Xu, *1996 Indicators of Technology-Based Competitiveness of Nations, Summary Report,* report to the National Science Foundation under Purchase Order No. D22588X-00-0 (Atlanta: Georgia Institute of Technology, 1997).

See figure 6-27. *Science & Engineering Indicators – 1998*