
Machinery

John Cutchin, Coordinator
(202) 205-3396
john.cutchin@usitc.gov

Change in 2004 from 2003:

U.S. trade deficit: Increased \$2.1 billion (7 percent) to \$31.8 billion
U.S. exports: Increased \$13.3 billion (21 percent) to \$76.7 billion
U.S. imports: Increased \$15.4 billion (17 percent) to \$108.6 billion

Although the U.S. trade deficit in machinery rose during 2004 for the fourth year in a row, the rate of growth in the deficit slowed, largely because of the strong growth in U.S. exports of these products (table MT-1). The U.S. export advance was bolstered by a \$5.5 billion increase in U.S. sales of semiconductor manufacturing equipment (SME), which was principally purchased by manufacturers of semiconductors in Taiwan, Singapore, Japan, China, and Korea to expand and modernize production facilities. The increase in U.S. machinery imports was much more broad based, with major escalations of purchases occurring in household appliances (\$1.7 billion); farm and garden machinery and equipment (\$1.6 billion); taps, cocks, valves and similar devices (\$1.2 billion); miscellaneous machinery (\$1.1 billion); air conditioning equipment and parts (\$1.1 billion); SME (\$1.0 billion); and printing and related machinery (\$1.0 billion) (table MT-2). The import advances were driven by a number of factors, including the continued expansion of the U.S. economy, historically low interest rates, and a strong U.S. housing market.

The increase in U.S. demand for durable goods during 2004 continued the strong showing that began in 2003 as U.S. interest rates stayed low and the gross domestic product expanded by 4.4 percent.¹ Increased residential housing construction in 2004 strengthened U.S. demand for imported household appliances and air conditioning equipment and parts. Major import increases in household appliances occurred in vacuum cleaners (\$278 million), parts for refrigeration equipment (\$241 million), and refrigerator freezers (\$230 million). Although major U.S. name-brand suppliers of these products that have shifted production operations to Mexico increased their imports from this source by \$230 million in 2004 to \$2.3 billion, imports of appliances from China rose \$884 million to \$4.9 billion, strengthening China's position as the leading foreign supplier of this equipment to the U.S. market.

With regard to air conditioning equipment and parts, imports in a number of parts categories rose dramatically, especially stators and rotors for compressors, up \$145 million (99 percent) to \$291 million, and parts of air or gas compressors (up \$134 million (26 percent) to \$642 million. These imports reflect the heavy reliance that U.S. suppliers have developed on offshore sourcing of components from certain lower-cost production facilities, particularly in Mexico and China. U.S. imports of air conditioning equipment and parts from Mexico increased \$298 million (18 percent) in 2004 to \$1.9 billion, while imports of those products from China rose \$294 million (17 percent) to \$2.0 billion. The overall trend in imports was reflective of record U.S. shipments of central air conditioners and air source heat pumps,

¹ Bureau of Economic Analysis (BEA), U.S. Department of Commerce, "Gross Domestic Product: Fourth Quarter 2004 (Preliminary)," *BEA News*, BEA 05-06, Feb. 25, 2005, found at <http://www.bea.doc.gov/bea/newsrelarchive/2005/gdp404p.pdf>.

Table MT-1

Machinery: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 2000–2004¹

Item	2000	2001	2002	2003	2004	Change, 2004 from 2003	
						Absolute	Percent
<i>Million dollars</i>							
U.S. exports of domestic merchandise:							
Mexico	11,604	10,263	9,183	9,086	10,078	992	10.9
Canada	17,179	15,949	15,207	15,310	16,214	904	5.9
China	1,898	2,356	2,730	3,091	4,729	1,638	53.0
Japan	5,190	4,133	3,328	3,493	4,629	1,136	32.5
Germany	3,489	3,413	2,625	2,581	2,906	325	12.6
Taiwan	6,014	2,954	3,217	2,384	4,865	2,481	104.1
Korea	3,682	2,452	2,521	2,713	3,293	580	21.4
United Kingdom	3,461	3,293	2,731	2,475	2,614	139	5.6
Italy	1,179	957	786	942	899	-42	-4.5
France	2,583	1,955	1,622	1,539	1,819	280	18.2
All other	23,228	21,828	19,312	19,848	24,698	4,850	24.4
Total	79,508	69,552	63,262	63,462	76,744	13,282	20.9
EU-15	15,745	13,998	11,669	11,671	12,929	1,259	10.8
OPEC	2,463	2,717	2,476	2,307	3,204	897	38.9
Latin America	17,171	16,223	13,627	13,408	15,180	1,772	13.2
CBERA	1,645	1,577	1,357	1,366	1,519	152	11.2
Asia	23,461	17,215	16,799	16,692	24,591	7,900	47.3
Sub-Saharan Africa	561	669	672	714	882	167	23.4
Central and Eastern Europe	379	397	395	432	510	77	17.9
U.S. imports of merchandise for consumption:							
Mexico	15,487	14,821	16,321	16,596	18,029	1,433	8.6
Canada	10,419	9,876	9,810	10,071	11,233	1,163	11.5
China	7,742	8,620	10,467	13,922	17,585	3,663	26.3
Japan	16,537	14,286	12,689	14,013	17,042	3,029	21.6
Germany	9,857	9,648	8,902	9,985	12,039	2,054	20.6
Taiwan	3,336	2,872	2,743	2,800	3,195	395	14.1
Korea	2,301	2,297	2,554	2,505	2,771	267	10.6
United Kingdom	3,606	3,420	3,002	2,955	3,322	367	12.4
Italy	3,699	3,499	3,519	3,952	4,559	607	15.3
France	2,096	2,027	1,919	1,980	2,308	329	16.6
All other	14,326	13,500	13,254	14,359	16,480	2,121	14.8
Total	89,407	84,867	85,181	93,138	108,564	15,427	16.6
EU-15	25,548	24,642	23,076	25,086	28,717	3,631	14.5
OPEC	248	233	219	221	311	90	40.8
Latin America	16,636	15,899	17,469	18,018	19,812	1,794	10.0
CBERA	279	220	235	324	442	118	36.5
Asia	32,761	30,675	31,163	36,166	44,313	8,147	22.5
Sub-Saharan Africa	178	264	231	182	196	14	7.5
Central and Eastern Europe	714	789	836	914	1,112	198	21.7

See footnote(s) at end of table.

Table MT-1—Continued

Machinery: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 2000–2004¹

Item	2000	2001	2002	2003	2004	Change, 2004 from 2003	
						Absolute	Percent
<i>Million dollars</i>							
U.S. merchandise trade balance:							
Mexico	-3,883	-4,558	-7,138	-7,510	-7,951	-441	-5.9
Canada	6,760	6,073	5,396	5,240	4,981	-259	-4.9
China	-5,844	-6,265	-7,737	-10,831	-12,856	-2,025	-18.7
Japan	-11,347	-10,153	-9,361	-10,520	-12,413	-1,893	-18.0
Germany	-6,368	-6,235	-6,278	-7,404	-9,132	-1,728	-23.3
Taiwan	2,678	82	474	-416	1,669	2,086	(²)
Korea	1,380	154	-33	208	521	313	150.4
United Kingdom	-145	-127	-271	-480	-708	-228	-47.5
Italy	-2,520	-2,542	-2,732	-3,011	-3,660	-649	-21.6
France	486	-72	-297	-441	-489	-49	-11.0
All other	8,902	8,328	6,058	5,489	8,218	2,729	49.7
Total	-9,899	-15,315	-21,919	-29,676	-31,820	-2,144	-7.2
EU-15	-9,803	-10,644	-11,408	-13,415	-15,787	-2,372	-17.7
OPEC	2,214	2,484	2,257	2,086	2,893	807	38.7
Latin America	535	324	-3,842	-4,610	-4,632	-22	-0.5
CBERA	1,366	1,357	1,122	1,043	1,077	34	3.3
Asia	-9,300	-13,460	-14,364	-19,474	-19,721	-247	-1.3
Sub-Saharan Africa	382	406	441	532	686	154	28.9
Central and Eastern Europe	-335	-392	-441	-481	-602	-121	-25.1

¹Import values are based on customs value; export values are based on f.a.s. value, U.S. port of export.

²Not meaningful for purposes of comparison.

Note.—Calculations based on unrounded data. The countries shown are those with the largest total U.S. trade (U.S. imports plus exports) in these products in 2004.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table MT-2
Leading changes in U.S. exports and imports of machinery, 2000–2004¹

Industry/commodity group	2000	2001	2002	2003	2004	Change, 2004 from 2003	
						Absolute	Percent
	<i>Million dollars</i>						
U.S. EXPORTS:							
Increases:							
Semiconductor manufacturing machinery (MM087A) . .	13,866	8,044	6,972	7,242	12,790	5,548	76.6
Miscellaneous machinery (MM098)	7,922	7,366	6,793	6,409	7,434	1,025	16.0
Farm and garden machinery and equipment (MM078)	4,945	4,565	4,747	5,109	6,098	989	19.4
Industrial thermal-processing equipment and furnaces (MM072)	2,631	2,496	2,064	2,099	2,789	690	32.9
Electric motors, generators, and related equipment (MM091)	3,748	4,691	3,923	4,031	4,673	642	15.9
Decreases:							
Portable electric handtools (MM093)	359	291	212	191	180	-11	-5.7
All other	46,037	42,099	38,551	38,381	42,780	4,399	11.5
TOTAL	79,508	69,552	63,262	63,462	76,744	13,282	20.9
U.S. IMPORTS:							
Increases:							
Household appliances, including commercial applications (MM073)	7,689	8,356	9,587	10,782	12,489	1,708	15.8
Farm and garden machinery and equipment (MM078)	3,740	3,602	3,898	4,645	6,216	1,571	33.8
Taps, cocks, valves, and similar devices (MM088)	5,021	4,809	5,156	5,500	6,738	1,238	22.5
Miscellaneous machinery (MM098)	7,241	6,455	6,133	6,917	8,058	1,140	16.5
Air-conditioning equipment and parts (MM071)	6,332	6,081	6,674	7,403	8,533	1,129	15.3
Semiconductor manufacturing equipment and robotics (MM087)	5,167	4,389	3,679	3,152	4,151	998	31.7
Printing and related machinery (MM081)	2,157	1,929	2,001	4,844	5,802	959	19.8
Decreases:							
Metal rolling mills (MM083)	261	180	163	210	150	-60	-28.7
All other	51,798	49,066	47,892	49,684	56,428	6,744	13.6
TOTAL	89,407	84,867	85,181	93,138	108,564	15,427	16.6

¹Import values are based on customs value; export values are based on f.a.s. value, U.S. port of export.

Note.—Calculations based on unrounded data.

Source: Compiled from official statistics of the U.S. Department of Commerce.

which in turn were driven by the continued expansion of the U.S. housing market and an expanding aftermarket for this equipment.²

The machinery product sector experiencing the second-largest import increase during 2004 was farm and garden machinery and equipment, imports of which rose \$1.6 billion (34 percent) to \$6.2 billion. The increase was most pronounced in tractors for agricultural use, which rose \$614 million (34 percent) to \$2.4 billion, and track-laying tractors for agricultural use, up \$174 million (64 percent) to \$446 million. Leading sources for these imports included Japan, which increased \$491 million (46 percent) to \$1.6 billion; Canada, which rose \$207 million (29 percent) to \$917 million; and Germany, which increased \$197 million (40 percent) to \$688 million. The principal factors driving this surge were record U.S. production of corn and soybeans, strong livestock and dairy market sectors, record-level farm cash receipts, and low interest rates.³

The increase in U.S. imports of taps, cocks, valves and similar devices was principally accounted for by valves and parts of valves. Valves classified in the hand-operated, or manual, category are principally of brass and plastic for use in household (bath, shower, sink, and lavatory faucet) and certain commercial applications (toilet, fire suppression, etc.). Imports of such valves increased \$162 million (56 percent) to \$453 million in response to the high level of U.S. residential and commercial construction activity in 2004. Valves classified as “other than hand operated” and in the oleohydraulic and pneumatic transmission categories are principally electrically, hydraulically, or pneumatically actuated valves that are used in a number of industrial applications, the most notable of which are petroleum refineries, chemical plants, food preparation plants, water and wastewater facilities, and electric power plants. Economic activity in many of these types of industrial facilities increased substantially during 2004 in response to the general expansion of the U.S. economy, increased fuel consumption, and elevated residential and commercial construction activities. Imports of these valves and parts increased \$731 million (22 percent) to \$4.0 billion. U.S. imports in the parts category had either cast or forged valve bodies, principally.

A notable machinery category experiencing a significant rise in imports during 2004 was printing and related machinery. The bulk of the increase occurred in three provisions: certain parts and accessories of office printing machines, which rose \$433 million (35 percent) to \$1.7 billion; certain office printing machines,⁴ which increased \$225 million (12 percent) to \$2.2 billion; and non-office, offset printing machinery⁵ weighing 1,600 kg or more, which rose \$112 million (29 percent) to \$500 million. Most of the equipment noted above uses newer digital technology to perform its multitasking functions. The increased flexibility of this new equipment has been a major factor driving U.S. sales.⁶ The major import increases in printing and related machinery were accounted for by the top three leading suppliers: Japan, an increase of \$512 million (27 percent) to \$2.4 billion; China, an increase of \$112 million (9 percent) to \$1.3 billion; and Germany, an increase of \$191 million (27 percent) to \$905 million. These three sources accounted for 81 percent of total U.S. trade in these products in 2004.

² “2004 Unitary Shipments Set Record, 7,401,067 Units Shipped,” ARIKOLDFAX, Air-Conditioning and Refrigeration Institute, Feb. 2005, p. 1.

³ Deere & Co., Form 10K for the Fiscal Year Ended October 31, 2004, p. 2, found at http://www.deere.com/en_US/investinfo/reports/annual/2004/static/10Q_10K_redirect.html, retrieved Mar. 28, 2005.

⁴ The provision in the Harmonized Tariff Schedule of the United States (HTSUS) covering these machines (HTSUS item 8472.90.80) was implemented in 2002 principally to account for imports of a new generation of office machines capable of two or more of the following functions: copy, print, scan, and fax. Previously existing provisions in the tariff schedules were designed to account for equipment that only performed a single principal function.

⁵ This offset printing machinery is designed to accommodate sheets of paper exceeding 22 by 36 centimeters (approximately 8.5 inches by 14 inches) and is specifically adapted to commercial operations such as print shops or printing plants.

⁶ Andrew Seldon, “More Bang for Your Printing Buck,” *Network Times*, Apr. 2005, p. 2, found at <http://www.networktimes.co.za/Article.ASP?pkArticleID=3237&pkIssueID=423>, retrieved Apr. 20, 2005.

U.S. bilateral trade in machinery has been historically dominated by five foreign sources: Canada, China, Germany, Japan, and Mexico. In recent years, these sources have accounted for more than two-thirds of total U.S. machinery trade annually. During 2004, these countries accounted for more than 70 percent of total U.S. machinery imports and 74 percent of the import increase. Taiwan, Korea, and the United Kingdom have been notable destinations for U.S. machinery exports. Together, the top eight leading U.S. export markets accounted for 64 percent of total U.S. exports and 83 percent of the U.S. export increase in 2004. U.S. exports were more concentrated than imports, with Canada and Mexico accounting for \$26.3 billion (34 percent) of the 2004 export total and Taiwan, China, and Japan responsible for \$5.3 billion (40 percent) of the annual export increase.

Since 2001, Mexico has been the leading foreign supplier of machinery to U.S. markets, largely because it has become a preferred low-wage–rate location for U.S. suppliers to perform labor-intensive production and assembly operations. The product sectors leading the upturn in Mexican machinery imports in 2004 were air conditioning equipment and parts, which rose \$298 million (18 percent) to \$1.9 billion; household appliances, which increased \$230 million (11 percent) to \$2.3 billion; and non-automotive insulated electrical wire and cable, which rose \$219 million (18 percent) to \$1.4 billion.

Nevertheless, the rapid expansion of machinery imports from China in recent years has elevated the country's position from fifth-leading supplier in 2000 to second in 2004. Nearly one-half of the increase in machinery imports from China during 2004 was accounted for by household appliances, which rose \$884 million (22 percent) to \$4.9 billion; electrical transformers, static converters, and inductors, which increased \$421 million (38 percent) to \$1.5 billion; and taps, cocks, valves, and similar devices, which rose \$365 million (58 percent) to \$994 million. Chinese suppliers have generally entered the lower end of these commodity markets with competitively priced product offerings.

Despite the second-largest absolute increase of \$3.0 billion (22 percent) in imports, Japan slipped from being the second-largest machinery supplier to the United States to being the third-largest in 2004, with an annual total of \$17.0 billion. The leading machinery product sectors highlighting this change were SME, which increased \$576 million (39 percent) to \$2.1 billion; printing and related machinery, which rose \$512 million (27 percent) to \$2.4 billion; and farm and garden machinery and equipment, which increased \$491 million (46 percent) to \$1.6 billion.

Semiconductor Manufacturing Equipment

Change in 2004 from 2003:

U.S. trade surplus: Increased \$4.7 billion (105 percent) to \$9.2 billion

U.S. exports: Increased \$5.5 billion (77 percent) to \$12.8 billion

U.S. imports: Increased \$0.8 billion (30 percent) to \$3.6 billion

U.S. SME trade increased substantially in 2004, largely because of an increase in U.S. and global demand for semiconductors and a drive by semiconductor producers to invest in more advanced manufacturing equipment.⁷ Worldwide SME sales rose 67 percent to \$37 billion in 2004.⁸ Sales increased in all major markets, with the most robust growth occurring in Taiwan, China, and Japan.⁹ Sales in all major industry segments also increased, with the global wafer-processing equipment market growing by \$10.6 billion (73 percent) to \$25.4 billion, the assembly and packaging segment growing by \$785 million (47 percent) to \$2.5 billion, and total test equipment sales increasing by \$2.2 billion (55 percent) to \$6.4 billion.¹⁰ As has been the case for the past 7 years, U.S. exports outpaced imports in 2004, due to the strength of the U.S. SME industry and the increase in the establishment of semiconductor production facilities outside of the United States.

U.S. exports

Robust demand from Asia coupled with higher U.S. production helped increase U.S. exports in 2004.¹¹ The major markets for U.S. SME exports in 2004 were Taiwan, Japan, Korea, Singapore, and China, which together accounted for \$9.4 billion (73 percent) of total U.S. exports.¹² Exports to Taiwan, Singapore, and China were fueled by increased SME sales to semiconductor foundries, which continue to

⁷ Semiconductor Industry Association, "Global Semiconductor Sales Hit Record \$213 Billion in 2004," Jan. 31, 2005, found at http://www.sia-online.org/pre_release.cfm?ID=353, retrieved Mar. 14, 2005 (press release). Investment in advanced equipment is being driven by an equipment upgrade trend in which front-end wafer-processing equipment designed to accommodate a larger diameter silicon wafer (300 millimeter instead of 200 millimeter) is replacing less advanced equipment in existing fabrication facilities (fabs) and is being used in the majority of newly constructed fabs.

⁸ Semiconductor Equipment and Materials Institute, "SEMI Reports 2004 Global Semiconductor Equipment Sales of \$37.1 Billion," Mar. 10, 2005, found at http://wps2a.semi.org/wps/portal/_pagr/117/_pa.117/122?dFormat=application/msword&docName=P034897, retrieved Mar. 21, 2005 (press release). Sales in 2004 represent the second-highest all time total in SME sales behind 2000.

⁹ Ibid. Growth in Taiwan, China, and Japan increased by 166 percent, 132 percent, and 49 percent, respectively. North America experienced the least growth at 30 percent.

¹⁰ "Tool Vendors Experienced 67% Sales Growth in '04," Mar. 10, 2005, found at <http://www.reed-electronics.com/electronicnews/article/CA509981.html?ref=nbra>, retrieved Mar. 24, 2005; and U.S. industry representative, telephone conversation and e-mail correspondence with USITC staff, Apr. 28–29, 2005.

¹¹ According to one industry representative, of the \$37.1 billion in global equipment sales in 2004, U.S.-headquartered firms accounted for \$17.2 billion, of which \$13.6 billion was exported. U.S. industry representative, e-mail correspondence with USITC staff, Mar. 28, 2005.

¹² As a region, Asia accounted for \$10.2 billion (79 percent) of total U.S. exports, reflecting the region's emergence as a major semiconductor producer.

be very competitive.¹³ In addition, the increase in dynamic random access memory (DRAM) semiconductor production in Korea, Taiwan, and Singapore during 2004 aided U.S. equipment exports to the Asia region, which is responsible for more than one-half of all global DRAM production.¹⁴

U.S. imports

Japan was the largest foreign SME supplier to the U.S. market in 2004, accounting for \$1.8 billion (51 percent) of total U.S. imports. The Netherlands, the second-largest supplier of U.S. imports, accounted for \$636 million (18 percent) of the total. Producers from these two countries are essentially the sole suppliers of photolithography equipment, an integral tool used for semiconductor wafer processing.¹⁵ Having no large-scale producers of this equipment, the United States is dependent on imports of these products.

Falan Yinug
(202) 205-2160
falan.yinug@usitc.gov

¹³ A foundry is a semiconductor company exclusively devoted to semiconductor manufacturing, i.e., it is not involved in semiconductor design. In 2004 the foundry segment received the greatest portion of capital spending by product type. See Bill McClean, Brian Matas, and Trevor Yancey, *The McClean Report: A Complete Analysis and Forecast of the Integrated Circuit Industry*, 2005 ed. (Arizona: IC Insights, Inc., 2005), p. 4-16, fig. 4-17. Of the top four U.S. SME export markets, Singapore accounted for the largest percentage increase (164 percent) in 2004, due in large part to a significant equipment purchase from Singaporean foundry Chartered Semiconductor, which was financed by a loan from the Export-Import Bank of the United States. See Export-Import Bank of the United States, "Ex-Im Bank \$652 Million Guarantee Backs Sale of U.S. Equipment and Services to Build Semiconductor Plant in Singapore," Nov. 15, 2004, found at <http://www.exim.gov/pressrelease.cfm/434FDA5F-B2D8-AE78-D3632FFE08174C2A/>, retrieved Apr. 12, 2005 (press release).

¹⁴ Strategic Marketing Associates, "The Future Continues to Reside in Asia-Pacific: Foundry and DRAM Fabs Make All the Difference," Nov. 30, 2004, found at http://www.scfab.com/showcase/docs/PR_Newsletter_2004_11.pdf, retrieved Mar. 24, 2005 (news release).

¹⁵ U.S. industry representative, telephone conversation with USITC staff, Mar. 25, 2005. Practically all photolithography equipment is produced by Nikon Corp. and Canon Inc. from Japan and ASML Holding from the Netherlands. In 2004, photolithography accounted for 14 percent of the total world equipment market, or \$5.2 billion in sales. U.S. industry representative, e-mail correspondence with USITC staff, Mar. 28, 2005.

Table MT-3
Machinery: U.S. trade for industry/commodity groups and subgroups, 2000–2004¹

USITC code ²	Industry/commodity group	2000	2001	2002	2003	2004	Change, 2004 from 2003	
							Absolute	Percent
<i>Million dollars</i>								
MM068	Wiring harnesses for motor vehicles:							
	Exports	938	866	961	868	878	10	1.2
	Imports	5,132	4,684	5,302	5,272	5,434	162	3.1
	Trade balance	-4,194	-3,818	-4,341	-4,404	-4,555	-151	-3.4
MM069	Pumps for motor vehicles:							
	Exports	680	642	681	690	771	81	11.7
	Imports	863	788	913	992	1,173	181	18.3
	Trade balance	-183	-147	-232	-302	-402	-100	-33.3
MM070	Pumps for liquids:							
	Exports	2,461	2,561	2,393	2,412	2,725	313	13.0
	Imports	1,809	1,801	1,883	2,180	2,673	494	22.6
	Trade balance	652	760	510	232	51	-180	-77.8
MM071	Air-conditioning equipment and parts:							
	Exports	5,884	5,694	5,318	5,334	5,794	460	8.6
	Imports	6,332	6,081	6,674	7,403	8,533	1,129	15.3
	Trade balance	-449	-387	-1,356	-2,070	-2,739	-669	-32.3
MM072	Industrial thermal-processing equipment and furnaces:							
	Exports	2,631	2,496	2,064	2,099	2,789	690	32.9
	Imports	1,663	1,641	1,671	1,660	1,880	220	13.2
	Trade balance	968	855	393	439	910	471	107.3
MM073	Household appliances, including commercial applications:							
	Exports	5,563	5,226	4,892	4,810	5,193	383	8.0
	Imports	7,689	8,356	9,587	10,782	12,489	1,708	15.8
	Trade balance	-2,126	-3,130	-4,695	-5,971	-7,296	-1,325	-22.2
MM073A	Major household appliances and parts:							
	Exports	1,717	1,708	1,610	1,655	1,773	117	7.1
	Imports	1,642	1,986	2,444	2,868	3,440	572	20.0
	Trade balance	75	-278	-834	-1,212	-1,667	-455	-37.5
MM074	Centrifuges and filtering and purifying equipment:							
	Exports	3,031	3,208	3,045	3,022	3,277	255	8.4
	Imports	2,010	2,275	2,403	2,663	3,088	425	16.0
	Trade balance	1,021	933	642	358	189	-170	-47.3

See footnote(s) at end of table.

Table MT-3—Continued
Machinery: U.S. trade for industry/commodity groups and subgroups, 2000–2004¹

USITC code ²	Industry/commodity group	2000	2001	2002	2003	2004	Change, 2004 from 2003	
							Absolute	Percent
<i>Million dollars</i>								
MM075	Wrapping, packaging, and can-sealing machinery:							
	Exports	804	711	639	637	707	70	11.0
	Imports	1,246	1,302	1,333	1,505	1,725	220	14.6
	Trade balance	-442	-591	-694	-868	-1,018	-150	-17.2
MM076	Scales and weighing machinery:							
	Exports	163	175	164	155	155	(³)	-0.1
	Imports	294	279	293	375	525	150	39.9
	Trade balance	-131	-104	-129	-220	-370	-150	-68.1
MM077	Mineral processing machinery:							
	Exports	582	582	485	545	669	124	22.7
	Imports	723	576	565	627	797	170	27.2
	Trade balance	-142	6	-81	-82	-128	-46	-56.8
MM078	Farm and garden machinery and equipment:							
	Exports	4,945	4,565	4,747	5,109	6,098	989	19.4
	Imports	3,740	3,602	3,898	4,645	6,216	1,571	33.8
	Trade balance	1,205	963	848	464	-117	-582	(⁴)
MM079	Industrial food-processing and related machinery:							
	Exports	627	576	606	558	601	43	7.7
	Imports	543	537	570	684	758	74	10.8
	Trade balance	83	40	36	-126	-157	-31	-24.5
MM080	Pulp, paper, and paperboard machinery:							
	Exports	779	678	560	648	662	15	2.3
	Imports	1,127	1,091	719	867	938	71	8.2
	Trade balance	-348	-414	-159	-219	-276	-56	-25.7
MM081	Printing and related machinery:							
	Exports	1,583	1,232	1,136	1,215	1,300	85	7.0
	Imports	2,157	1,929	2,001	4,844	5,802	959	19.8
	Trade balance	-574	-697	-865	-3,628	-4,502	-874	-24.1
MM082	Textile machinery:							
	Exports	978	897	871	810	897	86	10.7
	Imports	1,873	1,411	1,314	1,316	1,410	94	7.1
	Trade balance	-895	-515	-442	-506	-513	-7	-1.5

See footnote(s) at end of table.

Table MT-3—Continued
Machinery: U.S. trade for industry/commodity groups and subgroups, 2000–2004¹

USITC code ²	Industry/commodity group	2000	2001	2002	2003	2004	Change, 2004 from 2003	
							Absolute	Percent
<i>Million dollars</i>								
MM083	Metal rolling mills:							
	Exports	164	210	169	182	243	61	33.3
	Imports	261	180	163	210	150	-60	-28.7
	Trade balance	-97	30	7	-27	93	121	(⁴)
MM084	Metal cutting machine tools and machine tool accessories:							
	Exports	2,264	1,809	1,634	1,585	1,749	164	10.3
	Imports	4,240	3,407	2,558	2,704	3,424	720	26.6
	Trade balance	-1,977	-1,598	-924	-1,118	-1,674	-556	-49.7
MM085	Metal forming machine tools:							
	Exports	876	743	652	691	733	42	6.1
	Imports	1,474	1,331	846	933	1,019	86	9.2
	Trade balance	-598	-588	-194	-242	-286	-43	-17.9
MM086	Non-metalworking machine tools:							
	Exports	1,080	807	768	711	1,083	372	52.4
	Imports	1,524	1,276	1,242	1,330	1,626	297	22.3
	Trade balance	-443	-468	-474	-619	-543	76	12.3
MM087	Semiconductor manufacturing equipment and robotics:							
	Exports	14,585	8,553	7,341	7,599	13,257	5,658	74.5
	Imports	5,167	4,389	3,679	3,152	4,151	998	31.7
	Trade balance	9,418	4,164	3,662	4,446	9,107	4,660	104.8
MM087A	Semiconductor manufacturing machinery:							
	Exports	13,866	8,044	6,972	7,242	12,790	5,548	76.6
	Imports	4,597	3,947	3,304	2,750	3,586	836	30.4
	Trade balance	9,269	4,096	3,668	4,492	9,204	4,711	104.9
MM088	Taps, cocks, valves, and similar devices:							
	Exports	3,284	3,351	3,202	3,329	3,685	356	10.7
	Imports	5,021	4,809	5,156	5,500	6,738	1,238	22.5
	Trade balance	-1,737	-1,458	-1,954	-2,171	-3,054	-882	-40.6
MM089	Mechanical power transmission equipment:							
	Exports	1,029	939	936	1,054	1,197	142	13.5
	Imports	2,134	2,004	1,994	2,222	2,638	416	18.7
	Trade balance	-1,105	-1,066	-1,057	-1,168	-1,441	-273	-23.4

See footnote(s) at end of table.

Table MT-3—Continued
Machinery: U.S. trade for industry/commodity groups and subgroups, 2000–2004¹

USITC code ²	Industry/commodity group	2000	2001	2002	2003	2004	Change, 2004 from 2003	
							Absolute	Percent
<i>Million dollars</i>								
MM090	Boilers, turbines, and related machinery:							
	Exports	1,117	1,106	892	875	909	35	4.0
	Imports	833	1,204	1,514	881	839	-41	-4.7
	Trade balance	284	-98	-622	-6	70	76	(⁴)
MM091	Electric motors, generators, and related equipment:							
	Exports	3,748	4,691	3,923	4,031	4,673	642	15.9
	Imports	6,494	7,646	7,177	6,811	7,020	208	3.1
	Trade balance	-2,746	-2,954	-3,255	-2,780	-2,346	434	15.6
MM092	Electrical transformers, static converters, and inductors:							
	Exports	2,752	2,436	1,784	1,767	1,805	37	2.1
	Imports	6,156	5,134	4,707	4,680	5,496	817	17.5
	Trade balance	-3,404	-2,698	-2,923	-2,912	-3,692	-779	-26.8
MM093	Portable electric handtools:							
	Exports	359	291	212	191	180	-11	-5.7
	Imports	1,166	1,185	1,434	1,777	2,122	345	19.4
	Trade balance	-808	-894	-1,222	-1,586	-1,942	-356	-22.4
MM094	Nonelectrically powered handtools and parts thereof:							
	Exports	563	563	549	578	907	329	57.0
	Imports	933	901	961	992	1,235	243	24.6
	Trade balance	-370	-338	-412	-414	-328	86	20.7
MM095	Electric lamps (bulbs) and portable electric lights:							
	Exports	897	799	750	721	786	65	9.0
	Imports	1,579	1,785	1,687	1,748	2,094	346	19.8
	Trade balance	-682	-986	-937	-1,028	-1,309	-281	-27.3
MM096	Welding and soldering equipment:							
	Exports	1,050	703	635	618	818	200	32.4
	Imports	803	803	761	996	1,088	92	9.2
	Trade balance	247	-101	-126	-378	-270	109	28.7
MM097	Nonautomotive insulated electrical wire and related products:							
	Exports	4,040	3,286	2,856	2,660	2,936	276	10.4
	Imports	3,566	3,203	3,076	3,208	3,903	695	21.6
	Trade balance	474	83	-220	-548	-966	-418	-76.3

See footnote(s) at end of table.

Table MT-3—Continued

Machinery: U.S. trade for industry/commodity groups and subgroups, 2000–2004¹

USITC code ²	Industry/commodity group	2000	2001	2002	2003	2004	Change, 2004 from 2003	
							Absolute	Percent
<i>Million dollars</i>								
MM098	Miscellaneous machinery:							
	Exports	7,922	7,366	6,793	6,409	7,434	1,025	16.0
	Imports	7,241	6,455	6,133	6,917	8,058	1,140	16.5
	Trade balance	682	911	660	-508	-624	-116	-22.8
MM099	Molds and molding machinery:							
	Exports	2,129	1,791	1,605	1,550	1,833	283	18.3
	Imports	3,613	2,803	2,969	3,262	3,525	263	8.0
	Trade balance	-1,484	-1,012	-1,363	-1,712	-1,691	21	1.2

¹Import values are based on customs value; export values are based on f.a.s. value, U.S. port of export.

²This coding system is used by the U.S. International Trade Commission to identify major groupings and subgroupings of HTS import and export items for trade monitoring purposes

³Less than \$500,000.

⁴Not meaningful for purposes of comparison.

Note.—Calculations based on unrounded data.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table MT-4

Machinery sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2000–2004

USITC code	Industry/commodity group	2000	2001	2002	2003	2004	Percent change, 2004 from 2003
MM068	Wiring harnesses for motor vehicles:						
	Number of establishments	(¹)					
	Employees (thousands)	(¹)					
	Capacity utilization (percent)	(¹)					
	U.S. shipments (million dollars)	6,240	5,740	6,450	6,100	6,270	2.8
	U.S. exports (million dollars)	938	866	961	868	878	1.2
	U.S. imports (million dollars)	5,132	4,684	5,302	5,272	5,434	3.1
	Apparent U.S. consumption (million dollars)	10,434	9,558	10,791	10,504	10,825	3.1
	Trade balance (million dollars)	-4,194	-3,818	-4,341	-4,404	-4,555	-3.4
	Ratio of imports to consumption (percent)	49.2	49.0	49.1	50.2	50.2	0.0
	Ratio of exports to shipments (percent)	15.0	15.1	14.9	14.2	14.0	-1.4
MM069	Pumps for motor vehicles:						
	Number of establishments	195	215	225	202	196	-3.0
	Employees (thousands)	25.0	28.0	30.0	27.0	23.0	-14.8
	Capacity utilization (percent)	72	76	78	72	74	2.8
	U.S. shipments (million dollars)	3,012	3,223	3,384	3,046	3,000	-1.5
	U.S. exports (million dollars)	680	642	681	690	771	11.7
	U.S. imports (million dollars)	863	788	913	992	1,173	18.3
	Apparent U.S. consumption (million dollars)	3,195	3,370	3,616	3,348	3,402	1.6
	Trade balance (million dollars)	-183	-147	-232	-302	-402	-33.3
	Ratio of imports to consumption (percent)	27.0	23.4	25.3	29.6	34.5	16.6
	Ratio of exports to shipments (percent)	22.6	19.9	20.1	22.7	25.7	13.2
MM070	Pumps for liquids:						
	Number of establishments	460	485	475	453	446	-1.5
	Employees (thousands)	37.0	37.0	35.0	31.0	26.0	-16.1
	Capacity utilization (percent)	70	70	69	66	64	-3.0
	U.S. shipments (million dollars)	6,800	6,936	6,867	6,660	6,594	-1.0
	U.S. exports (million dollars)	2,461	2,561	2,393	2,412	2,725	13.0
	U.S. imports (million dollars)	1,809	1,801	1,883	2,180	2,673	22.6
	Apparent U.S. consumption (million dollars)	6,148	6,176	6,357	6,428	6,543	1.8
	Trade balance (million dollars)	652	760	510	232	51	-77.8
	Ratio of imports to consumption (percent)	29.4	29.2	29.6	33.9	40.9	20.6
	Ratio of exports to shipments (percent)	36.2	36.9	34.8	36.2	41.3	14.1

See footnote(s) at end of table.

Table MT-4—Continued

Machinery sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2000–2004

USITC code	Industry/commodity group	2000	2001	2002	2003	2004	Percent change, 2004 from 2003
MM071	Air-conditioning equipment and parts:						
	Number of establishments	1,262	1,295	1,240	1,265	1,252	-1.0
	Employees (thousands)	151.0	155.0	142.0	134.0	132.0	-1.5
	Capacity utilization (percent)	75	76	71	71	68	-4.2
	U.S. shipments (million dollars)	27,030	28,111	23,894	24,372	24,859	2.0
	U.S. exports (million dollars)	5,884	5,694	5,318	5,334	5,794	8.6
	U.S. imports (million dollars)	6,332	6,081	6,674	7,403	8,533	15.3
	Apparent U.S. consumption (million dollars)	27,479	28,498	25,250	26,442	27,598	4.4
	Trade balance (million dollars)	-449	-387	-1,356	-2,070	-2,739	-32.3
	Ratio of imports to consumption (percent)	23.0	21.3	26.4	28.0	30.9	10.4
	Ratio of exports to shipments (percent)	21.8	20.3	22.3	21.9	23.3	6.4
MM072	Industrial thermal-processing equipment and furnaces:						
	Number of establishments	331	320	325	323	326	0.9
	Employees (thousands)	34.0	32.0	32.0	32.0	30.0	-6.3
	Capacity utilization (percent)	68	66	67	66	62	-6.1
	U.S. shipments (million dollars)	3,752	3,564	3,599	3,675	3,749	2.0
	U.S. exports (million dollars)	2,631	2,496	2,064	2,099	2,789	32.9
	U.S. imports (million dollars)	1,663	1,641	1,671	1,660	1,880	13.2
	Apparent U.S. consumption (million dollars)	2,784	2,709	3,206	3,236	2,839	-12.3
	Trade balance (million dollars)	968	855	393	439	910	107.3
	Ratio of imports to consumption (percent)	59.7	60.6	52.1	51.3	66.2	29.0
	Ratio of exports to shipments (percent)	70.1	70.0	57.4	57.1	74.4	30.3
MM073	Household appliances, including commercial applications:						
	Number of establishments	87	98	95	99	93	-6.1
	Employees (thousands)	50.0	55.0	53.0	53.0	50.0	-5.7
	Capacity utilization (percent)	67	70	69	70	68	-2.9
	U.S. shipments (million dollars)	15,111	15,741	15,427	15,736	16,129	2.5
	U.S. exports (million dollars)	5,563	5,226	4,892	4,810	5,193	8.0
	U.S. imports (million dollars)	7,689	8,356	9,587	10,782	12,489	15.8
	Apparent U.S. consumption (million dollars)	17,237	18,871	20,122	21,707	23,425	7.9
	Trade balance (million dollars)	-2,126	-3,130	-4,695	-5,971	-7,296	-22.2
	Ratio of imports to consumption (percent)	44.6	44.3	47.6	49.7	53.3	7.2
	Ratio of exports to shipments (percent)	36.8	33.2	31.7	30.6	32.2	5.2

See footnote(s) at end of table.

Table MT-4—Continued

Machinery sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2000–2004

USITC code	Industry/commodity group	2000	2001	2002	2003	2004	Percent change, 2004 from 2003
MM073A	Major household appliances and parts:						
	Number of establishments	238	251	255	282	270	-4.3
	Employees (thousands)	73.0	75.0	76.0	78.0	72.0	-7.7
	Capacity utilization (percent)	69	70	71	75	73	-2.7
	U.S. shipments (million dollars)	13,981	14,259	14,544	15,126	15,504	2.5
	U.S. exports (million dollars)	1,717	1,708	1,610	1,655	1,773	7.1
	U.S. imports (million dollars)	1,642	1,986	2,444	2,868	3,440	20.0
	Apparent U.S. consumption (million dollars)	13,906	14,537	15,378	16,338	17,171	5.1
	Trade balance (million dollars)	75	-278	-834	-1,212	-1,667	-37.5
	Ratio of imports to consumption (percent)	11.8	13.7	15.9	17.6	20.0	13.6
	Ratio of exports to shipments (percent)	12.3	12.0	11.1	10.9	11.4	4.6
MM075	Wrapping, packaging, and can-sealing machinery:						
	Number of establishments	784	813	813	813	808	-0.6
	Employees (thousands)	29.0	28.0	25.0	24.0	23.0	-4.2
	Capacity utilization (percent)	62	59	72	75	76	1.3
	U.S. shipments (million dollars)	4,202	3,939	4,807	4,889	4,900	(²)
	U.S. exports (million dollars)	804	711	639	637	707	11.0
	U.S. imports (million dollars)	1,246	1,302	1,333	1,505	1,725	14.6
	Apparent U.S. consumption (million dollars)	4,644	4,530	5,501	5,757	5,918	2.8
	Trade balance (million dollars)	-442	-591	-694	-868	-1,018	-17.2
	Ratio of imports to consumption (percent)	26.8	28.7	24.2	26.1	29.1	11.5
	Ratio of exports to shipments (percent)	19.1	18.1	13.3	13.0	14.4	10.8
MM076	Scales and weighing machinery:						
	Number of establishments	116	115	113	111	110	-0.9
	Employees (thousands)	4.6	4.3	4.3	4.2	4.1	-2.4
	Capacity utilization (percent)	56	57	54	51	47	-7.8
	U.S. shipments (million dollars)	765	717	692	694	696	(²)
	U.S. exports (million dollars)	163	175	164	155	155	-0.1
	U.S. imports (million dollars)	294	279	293	375	525	39.9
	Apparent U.S. consumption (million dollars)	896	821	821	914	1,066	16.6
	Trade balance (million dollars)	-131	-104	-129	-220	-370	-68.1
	Ratio of imports to consumption (percent)	32.8	34.0	35.7	41.0	49.2	20.0
	Ratio of exports to shipments (percent)	21.4	24.4	23.7	22.4	22.3	-0.4

See footnote(s) at end of table.

Table MT-4—Continued

Machinery sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2000–2004

USITC code	Industry/commodity group	2000	2001	2002	2003	2004	Percent change, 2004 from 2003
MM077	Mineral processing machinery:						
	Number of establishments	77	74	75	75	75	0.0
	Employees (thousands)	6.0	5.0	5.0	5.0	5.0	0.0
	Capacity utilization (percent)	57	59	53	57	60	5.3
	U.S. shipments (million dollars)	2,850	2,510	2,380	2,330	2,610	12.0
	U.S. exports (million dollars)	582	582	485	545	669	22.7
	U.S. imports (million dollars)	723	576	565	627	797	27.2
	Apparent U.S. consumption (million dollars)	2,992	2,504	2,461	2,412	2,738	13.5
	Trade balance (million dollars)	-142	6	-81	-82	-128	-56.8
	Ratio of imports to consumption (percent)	24.2	23.0	23.0	26.0	29.1	11.9
	Ratio of exports to shipments (percent)	20.4	23.2	20.4	23.4	25.6	9.4
MM078	Farm and garden machinery and equipment:						
	Number of establishments	1,800	1,700	1,500	1,450	1,300	-10.3
	Employees (thousands)	86.0	84.0	79.0	75.0	80.0	6.7
	Capacity utilization (percent)	67	67	67	75	185	146.7
	U.S. shipments (million dollars)	19,676	18,582	19,150	21,236	21,236.4	0.0
	U.S. exports (million dollars)	4,945	4,565	4,747	5,109	6,098	19.4
	U.S. imports (million dollars)	3,740	3,602	3,898	4,645	6,216	33.8
	Apparent U.S. consumption (million dollars)	18,471	17,619	18,302	20,772	21,354	2.8
	Trade balance (million dollars)	1,205	963	848	464	-117	(³)
	Ratio of imports to consumption (percent)	20.2	20.4	21.3	22.4	29.1	29.9
	Ratio of exports to shipments (percent)	25.1	24.6	24.8	24.1	28.7	19.1
MM079	Industrial food-processing and related machinery:						
	Number of establishments	591	600	549	553	550	-0.5
	Employees (thousands)	18.0	18.0	16.0	15.0	15.0	0.0
	Capacity utilization (percent)	67	66	68	71	73	2.8
	U.S. shipments (million dollars)	2,563	2,404	2,514	2,600	2,660	2.3
	U.S. exports (million dollars)	627	576	606	558	601	7.7
	U.S. imports (million dollars)	543	537	570	684	758	10.8
	Apparent U.S. consumption (million dollars)	2,480	2,364	2,478	2,726	2,817	3.3
	Trade balance (million dollars)	83	40	36	-126	-157	-24.5
	Ratio of imports to consumption (percent)	21.9	22.7	23.0	25.1	26.9	7.2
	Ratio of exports to shipments (percent)	24.5	24.0	24.1	21.5	22.6	5.1

See footnote(s) at end of table.

Table MT-4—Continued

Machinery sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2000–2004

USITC code	Industry/commodity group	2000	2001	2002	2003	2004	Percent change, 2004 from 2003
MM080	Pulp, paper, and paperboard machinery:						
	Number of establishments	319	305	290	275	261	-5.1
	Employees (thousands)	15.8	14.7	10.8	9.3	7.8	-16.1
	Capacity utilization (percent)	64	60	55	51	47	-7.8
	U.S. shipments (million dollars)	2,766	2,640	1,990	1,711	1,432	-16.3
	U.S. exports (million dollars)	779	678	560	648	662	2.3
	U.S. imports (million dollars)	1,127	1,091	719	867	938	8.2
	Apparent U.S. consumption (million dollars)	3,114	3,054	2,149	1,930	1,708	-11.5
	Trade balance (million dollars)	-348	-414	-159	-219	-276	-25.7
	Ratio of imports to consumption (percent)	36.2	35.7	33.4	44.9	54.9	22.3
	Ratio of exports to shipments (percent)	28.2	25.7	28.1	37.9	46.3	22.2
MM081	Printing and related machinery:						
	Number of establishments	519	508	497	486	475	-2.3
	Employees (thousands)	20.1	18.2	15.6	14.3	12.9	-9.8
	Capacity utilization (percent)	69	68	67	66	65	-1.5
	U.S. shipments (million dollars)	3,869	3,192	2,879	2,697	2,516	-6.7
	U.S. exports (million dollars)	1,583	1,232	1,136	1,215	1,300	7.0
	U.S. imports (million dollars)	2,157	1,929	2,001	4,844	5,802	19.8
	Apparent U.S. consumption (million dollars)	4,443	3,889	3,744	6,325	7,018	11.0
	Trade balance (million dollars)	-574	-697	-865	-3,628	-4,502	-24.1
	Ratio of imports to consumption (percent)	48.5	49.6	53.4	76.6	82.7	8.0
	Ratio of exports to shipments (percent)	40.9	38.6	39.5	45.1	51.7	14.6
MM082	Textile machinery:						
	Number of establishments	500	500	420	400	388	-3.0
	Employees (thousands)	13.0	12.0	10.0	8.0	7.0	-12.5
	Capacity utilization (percent)	(¹)					
	U.S. shipments (million dollars)	1,648	1,417	1,377	1,308	1,295	-1.0
	U.S. exports (million dollars)	978	897	871	810	897	10.7
	U.S. imports (million dollars)	1,873	1,411	1,314	1,316	1,410	7.1
	Apparent U.S. consumption (million dollars)	2,543	1,932	1,819	1,814	1,808	-0.3
	Trade balance (million dollars)	-895	-515	-442	-506	-513	-1.5
	Ratio of imports to consumption (percent)	73.6	73.1	72.2	72.5	78.0	7.6
	Ratio of exports to shipments (percent)	59.3	63.3	63.3	61.9	69.2	11.8

See footnote(s) at end of table.

Table MT-4—Continued

Machinery sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2000–2004

USITC code	Industry/commodity group	2000	2001	2002	2003	2004	Percent change, 2004 from 2003
MM083	Metal rolling mills:						
	Number of establishments	80	80	79	79	79	0.0
	Employees (thousands)	3.0	3.0	3.0	3.0	3.0	0.0
	Capacity utilization (percent)	65	55	58	56	70	25.0
	U.S. shipments (million dollars)	587	538	500	478	573	19.9
	U.S. exports (million dollars)	164	210	169	182	243	33.3
	U.S. imports (million dollars)	261	180	163	210	150	(²)
	Apparent U.S. consumption (million dollars)	684	508	493	505	480	-5.1
	Trade balance (million dollars)	-97	30	7	-27	93	(³)
	Ratio of imports to consumption (percent)	38.2	35.4	33.0	41.5	31.2	-24.8
	Ratio of exports to shipments (percent)	27.9	39.0	33.9	38.1	42.4	11.3
MM084	Metal cutting machine tools and machine tool accessories:						
	Number of establishments	650	600	400	370	330	-10.8
	Employees (thousands)	81.0	75.0	66.0	62.0	63.0	1.6
	Capacity utilization (percent)	68	63	60	60	65	8.3
	U.S. shipments (million dollars)	6,933	5,877	5,367	5,367	6,957	29.6
	U.S. exports (million dollars)	2,264	1,809	1,634	1,585	1,749	10.3
	U.S. imports (million dollars)	4,240	3,407	2,558	2,704	3,424	26.6
	Apparent U.S. consumption (million dollars)	8,910	7,475	6,291	6,485	8,631	33.1
	Trade balance (million dollars)	-1,977	-1,598	-924	-1,118	-1,674	-49.7
	Ratio of imports to consumption (percent)	47.6	45.6	40.7	41.7	39.7	-4.8
	Ratio of exports to shipments (percent)	32.6	30.8	30.4	29.5	25.1	-14.9
MM085	Metal forming machine tools:						
	Number of establishments	250	220	200	175	175	0.0
	Employees (thousands)	27.0	20.0	15.0	14.0	14.0	0.0
	Capacity utilization (percent)	66	62	60	60	65	8.3
	U.S. shipments (million dollars)	2,890	2,185	1,937	1,616	2,203	36.3
	U.S. exports (million dollars)	876	743	652	691	733	6.1
	U.S. imports (million dollars)	1,474	1,331	846	933	1,019	9.2
	Apparent U.S. consumption (million dollars)	3,488	2,773	2,131	1,858	2,489	33.9
	Trade balance (million dollars)	-598	-588	-194	-242	-286	-17.9
	Ratio of imports to consumption (percent)	42.3	48.0	39.7	50.2	40.9	-18.5
	Ratio of exports to shipments (percent)	30.3	34.0	33.7	42.8	33.3	-22.2

See footnote(s) at end of table.

Table MT-4—Continued

Machinery sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2000–2004

USITC code	Industry/commodity group	2000	2001	2002	2003	2004	Percent change, 2004 from 2003
MM086	Non-metalworking machine tools:						
	Number of establishments	260	240	200	190	190	0.0
	Employees (thousands)	42.0	40.0	35.0	35.0	37.0	5.7
	Capacity utilization (percent)	77	75	70	68	68	0.0
	U.S. shipments (million dollars)	6,320	6,023	5,242	5,221	5,483	5.0
	U.S. exports (million dollars)	1,080	807	768	711	1,083	52.4
	U.S. imports (million dollars)	1,524	1,276	1,242	1,330	1,626	22.3
	Apparent U.S. consumption (million dollars)	6,763	6,491	5,716	5,840	6,026	3.2
	Trade balance (million dollars)	-443	-468	-474	-619	-543	12.3
	Ratio of imports to consumption (percent)	22.5	19.6	21.7	22.8	27.0	18.4
	Ratio of exports to shipments (percent)	17.1	13.4	14.6	13.6	19.8	45.6
MM087A	Semiconductor manufacturing machinery:						
	Number of establishments	410	405	400	400	419	4.8
	Employees (thousands)	48.0	36.0	34.0	34.0	49.0	44.1
	Capacity utilization (percent)	90	72	81	82	90	9.8
	U.S. shipments (million dollars)	16,846	11,850	10,200	10,600	17,200	62.3
	U.S. exports (million dollars)	13,866	8,044	6,972	7,242	12,790	76.6
	U.S. imports (million dollars)	4,597	3,947	3,304	2,750	3,586	30.4
	Apparent U.S. consumption (million dollars)	7,577	7,754	6,532	6,108	7,996	30.9
	Trade balance (million dollars)	9,269	4,096	3,668	4,492	9,204	104.9
	Ratio of imports to consumption (percent)	60.7	50.9	50.6	45.0	44.8	-0.4
	Ratio of exports to shipments (percent)	82.3	67.9	68.4	68.3	74.4	8.9
MM088	Taps, cocks, valves, and similar devices:						
	Number of establishments	785	725	695	666	659	-1.1
	Employees (thousands)	70.0	67.0	64.0	62.0	60.0	-3.2
	Capacity utilization (percent)	74	70	68	64	64	0.0
	U.S. shipments (million dollars)	11,804	11,450	11,221	10,772	10,825	0.5
	U.S. exports (million dollars)	3,284	3,351	3,202	3,329	3,685	10.7
	U.S. imports (million dollars)	5,021	4,809	5,156	5,500	6,738	22.5
	Apparent U.S. consumption (million dollars)	13,541	12,908	13,175	12,943	13,879	7.2
	Trade balance (million dollars)	-1,737	-1,458	-1,954	-2,171	-3,054	-40.6
	Ratio of imports to consumption (percent)	37.1	37.3	39.1	42.5	48.6	14.4
	Ratio of exports to shipments (percent)	27.8	29.3	28.5	30.9	34.0	10.0

See footnote(s) at end of table.

Table MT-4—Continued

Machinery sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2000–2004

USITC code	Industry/commodity group	2000	2001	2002	2003	2004	Percent change, 2004 from 2003
MM089	Mechanical power transmission equipment:						
	Number of establishments	170	140	130	130	130	0.0
	Employees (thousands)	37.0	35.0	32.0	31.0	31.0	0.0
	Capacity utilization (percent)	62	62	60	60	70	16.7
	U.S. shipments (million dollars)	5,051	4,441	4,052	3,849	4,042	5.0
	U.S. exports (million dollars)	1,029	939	936	1,054	1,197	13.5
	U.S. imports (million dollars)	2,134	2,004	1,994	2,222	2,638	18.7
	Apparent U.S. consumption (million dollars)	6,156	5,507	5,109	5,017	5,483	9.3
	Trade balance (million dollars)	-1,105	-1,066	-1,057	-1,168	-1,441	-23.4
	Ratio of imports to consumption (percent)	34.7	36.4	39.0	44.3	48.1	8.6
	Ratio of exports to shipments (percent)	20.4	21.1	23.1	27.4	29.6	8.0
MM090	Boilers, turbines, and related machinery:						
	Number of establishments	28	28	28	26	25	-3.8
	Employees (thousands)	8.0	8.0	8.0	7.0	7.0	0.0
	Capacity utilization (percent)	65	65	70	65	70	7.7
	U.S. shipments (million dollars)	1,543	1,648	2,240	2,050	2,110	2.9
	U.S. exports (million dollars)	1,117	1,106	892	875	909	4.0
	U.S. imports (million dollars)	833	1,204	1,514	881	839	(²)
	Apparent U.S. consumption (million dollars)	1,259	1,746	2,862	2,056	2,040	-0.8
	Trade balance (million dollars)	284	-98	-622	-6	70	(³)
	Ratio of imports to consumption (percent)	66.2	68.9	52.9	42.8	41.1	-4.0
	Ratio of exports to shipments (percent)	72.4	67.1	39.8	42.7	43.1	0.9
MM091	Electric motors, generators, and related equipment:						
	Number of establishments	505	505	500	495	490	-1.0
	Employees (thousands)	93.0	95.0	92.0	90.0	89.0	-1.1
	Capacity utilization (percent)	73	76	72	70	75	7.1
	U.S. shipments (million dollars)	19,020	20,540	18,700	18,000	21,100	17.2
	U.S. exports (million dollars)	3,748	4,691	3,923	4,031	4,673	15.9
	U.S. imports (million dollars)	6,494	7,646	7,177	6,811	7,020	3.1
	Apparent U.S. consumption (million dollars)	21,766	23,494	21,955	20,780	23,446	12.8
	Trade balance (million dollars)	-2,746	-2,954	-3,255	-2,780	-2,346	15.6
	Ratio of imports to consumption (percent)	29.8	32.5	32.7	32.8	29.9	-8.8
	Ratio of exports to shipments (percent)	19.7	22.8	21.0	22.4	22.1	-1.3

See footnote(s) at end of table.

Table MT-4—Continued

Machinery sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2000–2004

USITC code	Industry/commodity group	2000	2001	2002	2003	2004	Percent change, 2004 from 2003
MM092	Electrical transformers, static converters, and inductors:						
	Number of establishments	415	410	405	400	390	-2.5
	Employees (thousands)	55.0	53.0	52.0	50.0	49.0	-2.0
	Capacity utilization (percent)	73	71	70	72	75	4.2
	U.S. shipments (million dollars)	8,470	7,625	6,520	6,300	6,440	2.2
	U.S. exports (million dollars)	2,752	2,436	1,784	1,767	1,805	2.1
	U.S. imports (million dollars)	6,156	5,134	4,707	4,680	5,496	17.5
	Apparent U.S. consumption (million dollars)	11,874	10,323	9,443	9,212	10,132	10.0
	Trade balance (million dollars)	-3,404	-2,698	-2,923	-2,912	-3,692	-26.8
	Ratio of imports to consumption (percent)	51.8	49.7	49.8	50.8	54.2	6.7
	Ratio of exports to shipments (percent)	32.5	31.9	27.4	28.1	28.0	-0.4
MM093	Portable electric handtools:						
	Number of establishments	27	25	24	21	20	-4.8
	Employees (thousands)	9.0	8.0	7.0	5.0	5.0	0.0
	Capacity utilization (percent)	83	80	75	70	65	-7.1
	U.S. shipments (million dollars)	2,390	2,080	1,950	1,900	1,800	-5.3
	U.S. exports (million dollars)	359	291	212	191	180	-5.7
	U.S. imports (million dollars)	1,166	1,185	1,434	1,777	2,122	19.4
	Apparent U.S. consumption (million dollars)	3,198	2,974	3,172	3,486	3,742	7.3
	Trade balance (million dollars)	-808	-894	-1,222	-1,586	-1,942	-22.4
	Ratio of imports to consumption (percent)	36.5	39.8	45.2	51.0	56.7	11.2
	Ratio of exports to shipments (percent)	15.0	14.0	10.9	10.1	10.0	-1.0
MM094	Nonelectrically powered handtools and parts thereof:						
	Number of establishments	35	30	25	25	26	4.0
	Employees (thousands)	13.0	13.0	12.0	11.0	12.0	9.1
	Capacity utilization (percent)	77	75	75	75	82	9.3
	U.S. shipments (million dollars)	1,974	1,916	1,956	1,956	2,092	7.0
	U.S. exports (million dollars)	563	563	549	578	907	57.0
	U.S. imports (million dollars)	933	901	961	992	1,235	24.6
	Apparent U.S. consumption (million dollars)	2,344	2,254	2,368	2,370	2,420	2.1
	Trade balance (million dollars)	-370	-338	-412	-414	-328	20.7
	Ratio of imports to consumption (percent)	39.8	40.0	40.6	41.8	51.0	22.0
	Ratio of exports to shipments (percent)	28.5	29.4	28.1	29.5	43.3	46.8

See footnote(s) at end of table.

Table MT-4—Continued

Machinery sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2000–2004

USITC code	Industry/commodity group	2000	2001	2002	2003	2004	Percent change, 2004 from 2003
MM095	Electric lamps (bulbs) and portable electric lights:						
	Number of establishments	115	110	105	100	95	-5.0
	Employees (thousands)	21.0	20.0	19.0	17.0	17.0	0.0
	Capacity utilization (percent)	68	65	64	62	65	4.8
	U.S. shipments (million dollars)	3,500	3,300	3,250	3,100	3,400	9.7
	U.S. exports (million dollars)	897	799	750	721	786	9.0
	U.S. imports (million dollars)	1,579	1,785	1,687	1,748	2,094	19.8
	Apparent U.S. consumption (million dollars)	4,182	4,286	4,187	4,128	4,709	14.1
	Trade balance (million dollars)	-682	-986	-937	-1,028	-1,309	-27.3
	Ratio of imports to consumption (percent)	37.8	41.7	40.3	42.4	44.5	5.0
	Ratio of exports to shipments (percent)	25.6	24.2	23.1	23.2	23.1	-0.4
MM096	Welding and soldering equipment:						
	Number of establishments	250	240	225	200	190	-5.0
	Employees (thousands)	18.0	17.0	16.0	13.0	15.0	15.4
	Capacity utilization (percent)	78	77	75	60	75	25.0
	U.S. shipments (million dollars)	4,770	4,250	3,524	3,217	3,700	15.0
	U.S. exports (million dollars)	1,050	703	635	618	818	32.4
	U.S. imports (million dollars)	803	803	761	996	1,088	9.2
	Apparent U.S. consumption (million dollars)	4,523	4,351	3,650	3,595	3,970	10.4
	Trade balance (million dollars)	247	-101	-126	-378	-270	28.7
	Ratio of imports to consumption (percent)	17.7	18.5	20.8	27.7	27.4	-1.1
	Ratio of exports to shipments (percent)	22.0	16.5	18.0	19.2	22.1	15.1
MM097	Nonautomotive insulated electrical wire and related products:						
	Number of establishments	520	500	490	475	470	-1.1
	Employees (thousands)	90.0	85.0	83.0	79.0	76.0	-3.8
	Capacity utilization (percent)	78	73	71	69	72	4.3
	U.S. shipments (million dollars)	17,500	15,000	13,380	12,850	13,850	7.8
	U.S. exports (million dollars)	4,040	3,286	2,856	2,660	2,936	10.4
	U.S. imports (million dollars)	3,566	3,203	3,076	3,208	3,903	21.6
	Apparent U.S. consumption (million dollars)	17,026	14,917	13,600	13,398	14,816	10.6
	Trade balance (million dollars)	474	83	-220	-548	-966	-76.3
	Ratio of imports to consumption (percent)	20.9	21.5	22.6	23.9	26.3	10.0
	Ratio of exports to shipments (percent)	23.1	21.9	21.3	20.7	21.2	2.4

See footnote(s) at end of table.

Table MT-4—Continued

Machinery sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2000–2004

USITC code	Industry/commodity group	2000	2001	2002	2003	2004	Percent change, 2004 from 2003
MM099	Molds and molding machinery:						
	Number of establishments	3,030	3,070	3,079	3,079	3,079	0.0
	Employees (thousands)	75.0	69.0	65.0	62.0	63.0	1.6
	Capacity utilization (percent)	72	46	61	58	61	5.2
	U.S. shipments (million dollars)	9,232	8,353	8,920	8,418	(¹)	(¹)
	U.S. exports (million dollars)	2,129	1,791	1,605	1,550	1,833	18.3
	U.S. imports (million dollars)	3,613	2,803	2,969	3,262	3,525	8.0
	Apparent U.S. consumption (million dollars)	10,716	9,365	10,283	10,130	(¹)	(¹)
	Trade balance (million dollars)	-1,484	-1,012	-1,363	-1,712	-1,691	1.2
	Ratio of imports to consumption (percent)	33.7	29.9	28.9	32.2	(¹)	(¹)
	Ratio of exports to shipments (percent)	23.1	21.4	18.0	18.4	(¹)	(¹)

¹ Not available.

² Less than 0.05 percent.

³ Not meaningful.

Note.—Calculations based on unrounded data.

Source: These data have been estimated by the Commission's international trade analysts on the basis of primary and secondary data sources including discussions with various Government and industry contacts. These estimated data are subject to change either from secondary sources or from detailed surveys the Commission often conducts in the course of statutory investigations or other work. Further, these data may undergo adjustments based on revisions in tariff nomenclature, classification practices, or redefinitions of industry classes.