

---

# Machinery

Judith-Anne Webster, Coordinator  
(202) 205-3489

[judith-anne.webster@usitc.gov](mailto:judith-anne.webster@usitc.gov)

## *Change in 2003 from 2002:*

**U.S. trade deficit: Increased by \$7.8 billion (35 percent) to \$29.7 billion**

**U.S. exports: Increased by \$200 million (0.3 percent) to \$63.5 billion**

**U.S. imports: Increased by \$8.0 billion (9 percent) to \$93.1 billion**

The U.S. trade deficit in machinery increased significantly in 2003, for the third consecutive year, as imports grew 9 percent (see table MT-1). Over one-third of the import growth was accounted for by multifunctional digital (MFD) office machines and related parts, imports of which grew from \$375 million to \$3.2 billion in 2003. MFD's can print, scan, and fax,<sup>1</sup> and have become increasingly popular in the U.S. market (see Printing and Related Machinery). After a significant decrease in exports from 2001 to 2002, exports of machinery remained stable in 2003, increasing less than 1 percent.

The market for durable goods expanded as the U.S. economy improved in 2003, contributing to higher imports of both household appliances (up \$1.2 billion in 2003) and air-conditioning units (an increase of \$730 million - see table MT-2). Growth in these product areas was driven by purchases for new and remodeled homes, as the market for homes remained strong and home refinancing resulting from low mortgage rates left consumers with money for home improvements.<sup>2</sup> In addition, a shift in consumer taste in appliance styles to appliances in new colors and finishes, such as stainless steel, and new more efficient products, such as hanging rack dryers, also encouraged consumers to spend money.<sup>3</sup> Imports from China gained strength, reflecting the growing consumer acceptance of Chinese brands such as Haier, a leading supplier of household appliances to Wal-Mart and Costco in the United States.<sup>4</sup> Finally, according to the Air-Conditioning and Refrigeration Institute, unusually hot weather in the West and Southwest created strong demand for replacement air conditioners.<sup>5</sup>

Despite a growing deficit in the machinery sector, imports decreased for certain power generating components and semiconductor manufacturing machinery. Boilers, turbines and related machinery imports decreased 42 percent (\$633 million) in 2003, the first downturn in over 5 years, particularly apparent for steam turbines and parts sourced from Korea. This shift reportedly was

---

<sup>1</sup> Customs Ruling, HQ 963680, Aug. 30, 2002,

<sup>2</sup> "Unitary Shipments Set Record in 2003," Air Conditioning Heating & Refrigeration News, Feb. 23 2004, Vol. 221 Issue 8, p 1, found at <http://search.epnet.com/direct.asp?an=12388604&db=buh>, retrieved Apr. 5, 2004.

<sup>3</sup> Daniel Lee, "Appliance Competition Intensifies," Appliance Manufacturer, Dec. 2003, Vol. 51 Issue 12, p 14, found at <http://search.epnet.com/direct.asp?an=11716791&db=buh> and "Reliable Dealer Makes a Difference in Choosing Appliances," NH Business Review, Feb. 20 - Mar. 4, 2004, p. 13C, found at [www.nhbr.com](http://www.nhbr.com).

<sup>4</sup> "Haier Tops China's Brand-name List," Forbes, Feb. 8, 2004 found at <http://search.epnet.com/direct.asp?an=CX2004039H1213&db=bwb>, retrieved Apr. 5, 2004.

<sup>5</sup> "Unitary Shipments Set Record in 2003," Air Conditioning Heating & Refrigeration News, Feb. 23 2004, Vol. 221 Issue 8, p 1, found at <http://search.epnet.com/direct.asp?an=12388604&db=buh>, retrieved Apr. 5, 2004.

Table MT-1

Machinery: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 1999-2003<sup>1</sup>

Item	1999	2000	2001	2002	2003	Change, 2003 from 2002	
						Absolute	Percent
<i>Million dollars</i>							
U.S. exports of domestic merchandise:							
Mexico	10,546	11,604	10,263	9,183	9,086	-96	-1.0
Canada	16,297	17,179	15,949	15,207	15,310	103	0.7
Japan	3,618	5,190	4,133	3,328	3,493	165	5.0
China	1,626	1,898	2,356	2,730	3,091	361	13.2
Germany	2,720	3,489	3,413	2,625	2,581	-44	-1.7
United Kingdom	3,059	3,461	3,293	2,731	2,475	-256	-9.4
Korea	2,231	3,682	2,452	2,521	2,713	192	7.6
Taiwan	3,511	6,014	2,954	3,217	2,384	-833	-25.9
Italy	1,011	1,179	957	786	942	155	19.8
France	1,937	2,583	1,955	1,622	1,539	-83	-5.1
All other	20,647	23,228	21,828	19,312	19,848	536	2.8
Total	67,201	79,508	69,552	63,262	63,462	200	0.3
EU-15	13,052	15,745	13,998	11,669	11,671	2	( <sup>2</sup> )
OPEC	2,352	2,463	2,717	2,476	2,307	-169	-6.8
Latin America	16,052	17,171	16,223	13,627	13,408	-219	-1.6
CBERA	1,737	1,645	1,577	1,357	1,366	9	0.7
Asia	15,742	23,461	17,215	16,799	16,692	-107	-0.6
Sub-Saharan Africa	527	561	669	672	714	43	6.3
Central and Eastern Europe	371	379	397	395	432	38	9.5
U.S. imports of merchandise for consumption:							
Mexico	13,899	15,487	14,821	16,321	16,596	276	1.7
Canada	9,637	10,419	9,876	9,810	10,071	260	2.7
Japan	13,230	16,537	14,286	12,689	14,013	1,324	10.4
China	6,285	7,742	8,620	10,467	13,922	3,454	33.0
Germany	9,679	9,857	9,648	8,902	9,985	1,082	12.2
United Kingdom	3,449	3,606	3,420	3,002	2,955	-46	-1.5
Korea	1,969	2,301	2,297	2,554	2,505	-50	-1.9
Taiwan	3,029	3,336	2,872	2,743	2,800	57	2.1
Italy	3,580	3,699	3,499	3,519	3,952	434	12.3
France	2,100	2,096	2,027	1,919	1,980	60	3.1
All other	12,386	14,326	13,500	13,254	14,359	1,105	8.3
Total	79,244	89,407	84,867	85,181	93,138	7,957	9.3
EU-15	24,426	25,548	24,642	23,076	25,086	2,010	8.7
OPEC	211	248	233	219	221	2	0.8
Latin America	14,832	16,636	15,899	17,469	18,018	548	3.1
CBERA	190	279	220	235	324	88	37.6
Asia	26,943	32,761	30,675	31,163	36,166	5,003	16.1
Sub-Saharan Africa	128	178	264	231	182	-49	-21.2
Central and Eastern Europe	544	714	789	836	914	78	9.3

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, 1999-2003<sup>1</sup>

Item	1999	2000	2001	2002	2003	Change, 2003 from 2002	
						Absolute	Percent
<i>Million dollars</i>							
U.S. merchandise trade balance:							
Mexico	-3,353	-3,883	-4,558	-7,138	-7,510	-372	-5.2
Canada	6,660	6,760	6,073	5,396	5,240	-157	-2.9
Japan	-9,613	-11,347	-10,153	-9,361	-10,520	-1,159	-12.4
China	-4,659	-5,844	-6,265	-7,737	-10,831	-3,094	-40.0
Germany	-6,960	-6,368	-6,235	-6,278	-7,404	-1,126	-17.9
United Kingdom	-390	-145	-127	-271	-480	-210	-77.4
Korea	262	1,380	154	-33	208	242	( <sup>3</sup> )
Taiwan	482	2,678	82	474	-416	-890	( <sup>3</sup> )
Italy	-2,569	-2,520	-2,542	-2,732	-3,011	-278	-10.2
France	-164	486	-72	-297	-441	-144	-48.4
All other	8,261	8,902	8,328	6,058	5,489	-569	-9.4
Total	-12,043	-9,899	-15,315	-21,919	-29,676	-7,757	-35.4
EU-15	-11,374	-9,803	-10,644	-11,408	-13,415	-2,008	-17.6
OPEC	2,141	2,214	2,484	2,257	2,086	-171	-7.6
Latin America	1,220	535	324	-3,842	-4,610	-768	-20.0
CBERA	1,547	1,366	1,357	1,122	1,043	-79	-7.1
Asia	-11,200	-9,300	-13,460	-14,364	-19,474	-5,110	-35.6
Sub-Saharan Africa	400	382	406	441	532	92	20.8
Central and Eastern Europe	-173	-335	-392	-441	-481	-40	-9.1

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

<sup>2</sup>Less than 0.05 percent.

<sup>3</sup>Not 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 2003.

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, 1999-2003**

Industry/commodity group	1999	2000	2001	2002	2003	Change, 2003 from 2002	
						Absolute	Percent
<i>Million dollars</i>							
<b>U.S. EXPORTS:</b>							
<b>Increases:</b>							
Farm and garden machinery and equipment (MM078) .....	4,757	4,945	4,565	4,747	5,109	362	7.6
Semiconductor manufacturing machinery (MM087A) ..	7,907	13,866	8,044	6,972	7,242	269	3.9
Household appliances, including commercial applications (MM073) .....	5,216	5,563	5,226	4,892	4,810	-82	-1.7
<b>Decreases:</b>							
Nonautomotive insulated electrical wire and related products (MM097) .....	3,102	4,040	3,286	2,856	2,660	-196	-6.9
<b>All other</b> .....	46,219	51,093	48,431	43,796	43,641	-154	-0.4
<b>TOTAL</b> .....	67,201	79,508	69,552	63,262	63,462	200	0.3
<b>U.S. IMPORTS:</b>							
<b>Increases:</b>							
Printing and related machinery (MM081) .....	2,304	2,157	1,929	2,001	4,844	2,843	142.1
Household appliances, including commercial applications (MM073) .....	6,718	7,689	8,356	9,587	10,782	1,195	12.5
Farm and garden machinery and equipment (MM078) .....	3,396	3,740	3,602	3,898	4,645	747	19.2
Air-conditioning equipment and parts (MM071) .....	5,604	6,332	6,081	6,674	7,403	730	10.9
<b>Decreases:</b>							
Boilers, turbines, and related machinery (MM090) ....	484	833	1,204	1,514	881	-633	-41.8
Semiconductor manufacturing machinery (MM087A) ..	2,600	4,597	3,947	3,304	2,750	-555	-16.8
Electric motors, generators, and related equipment (MM091) .....	6,089	6,494	7,646	7,177	6,811	-366	-5.1
<b>All other</b> .....	52,048	57,565	52,102	51,026	55,023	3,997	7.8
<b>TOTAL</b> .....	79,244	89,407	84,867	85,181	93,138	7,957	9.3

Note.-Calculations based on unrounded data.

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

attributable to reduced capital expenditures by a domestic industry which had over-expanded power generating capacity in the past few years.<sup>6</sup> Imports also decreased for the U.S. semiconductor manufacturing equipment industry for the third straight year as low capacity utilization within the industry reduced the need for new equipment. However, U.S. exports of semiconductor manufacturing machinery increased to \$7.2 billion in 2003, largely reflecting industry growth in certain markets, as Korea's market for semiconductor manufacturing machinery grew 91 percent and Japan's market grew 43 percent in 2003.<sup>7</sup> Samsung Electronics, for example, doubled its capital spending to \$3.6 billion in 2003.<sup>8</sup>

Strong two-way trade of farm and garden machinery and equipment occurred in 2003. Imports increased by \$747 million, particularly for tractors and related parts from Canada and Japan. According to the Department of Agriculture, farm income in the United States, a primary driver of farm equipment sales, rose owing to additional government price supports and high crop yields in 2003.<sup>9</sup> The leading export gain for these products was to Canada, the largest U.S. market for farm and garden machinery and equipment. Export decreases were relatively minor, occurring primarily in nonautomotive insulated electrical wire and related products (down \$196 million) and an aggregate product group (miscellaneous machinery). Thirty-four percent of the decrease in exports of miscellaneous machinery was attributable to the decline in exports of physical vapor deposition equipment (used for giving materials, such as semiconductors, an electric charge), particularly to Korea.

---

<sup>6</sup> Representative of General Electric, telephone interview with USITC staff, Mar. 29, 2004.

<sup>7</sup> "SEMI Reports 2003 Global Semiconductor Equipment Sales of \$22.2 billion," SEMI press release, Mar. 10, 2004, found at <http://itc.newsedge-web.com>, retrieved Mar. 11, 2004.

<sup>8</sup> "Korea was the Fastest Growth Market for Semiconductor Capital Spending in 2003," SEMI press release, found at [www.semi.org](http://www.semi.org), retrieved Dec. 9, 2003.

<sup>9</sup> Sam Stovall, "Heavy Machinery's Fork in the Road," Business Week Online, Nov. 5, 2003.

## COMMODITY ANALYSIS OF PRINTING AND RELATED MACHINERY<sup>10</sup>

### *Change in 2003 from 2002:*

**U.S. trade deficit: Increased by \$2.8 billion (320 percent) to \$3.6 billion**

**U.S. exports: Increased by \$79 million (7 percent) to \$1.2 billion**

**U.S. imports: Increased by \$2.8 billion (142 percent) to \$4.8 billion**

The trade deficit increase in printing and related machinery was almost exclusively a result of increased imports of multifunction digital printers (MFD), including parts, that print, copy, scan, and transmit documents. The largest increases were from China and Japan (see table MT-3). In contrast, exports rose only slightly in relative terms, with the largest absolute increase in exports going to the Netherlands, which accounted for almost one-half of the overall export increase.<sup>11</sup> This gain in exports was moderated by the continued decline in exports of large printing press devices and parts as the domestic industry continued to contract.<sup>12</sup> The 2003 deficit reached its highest level during the last 5 years, eclipsing the previous largest deficit of \$958 million in 1999.

### **U.S. imports**

MFD<sup>13</sup> machine imports increased sixfold (up \$1.9 billion) and related parts (mostly ink cartridges) increased tenfold (up \$1.0 billion). The import demand was largely attributable to a 64-percent increase in sales of digital cameras in 2003, which led to a 21-percent increase in worldwide sales of MFDs and their parts, displacing stand-alone inkjet printers.<sup>14</sup> The increasing popularity of digital cameras, along with rapid domestic conversion of analog electronics applications to digital electronics (and formerly conventional photographs to digital images), combined with improved driver technologies for laser and inkjet printers, multifunction devices, and digital presses,<sup>15</sup> has increased the market for digital printers and scanners both in Small Office Home Office (SOHO) and Small Medium

---

<sup>10</sup> This industry/commodity group includes machinery and parts for letterpress; flexographic; gravure; ink-jet; reel-and sheet-fed offset; textile; and office printers. Also included are bookbinding machinery; phototypesetting and composing machines; and printing plates, type, and other printing components.

<sup>11</sup> In 2003, Netherlands-based Aurelon announced the release of new software for large format printing using Windows and Mac systems and inkjet printers. This accelerated the recent growth in the purchase of parts for MFDs and other nontextile applications, as well as the machines used ancillary to printing. CMYKPages, "Aurelon Brings to Market New Generation of Aurelon RIP," July 2, 2003, found at <http://www.cmykpages.com/default.asp?hndlr=ORIGIN&itmid=451A772EDE2846AB8B9AFCA445A64EB1>, retrieved Mar. 23, 2004. The Netherlands also moved toward the digitization of magazine and other printed matter, further facilitated by U.S. technology contributions and the decline of the dollar versus the euro. See, e.g., Erik van Erp, "The Long Road to Digital Ads for Magazines and Newspapers in The Netherlands," found at [http://seminars.seyboldreports.com/2003\\_amsterdam/files/pfc1\\_erik\\_vanerp.pdf](http://seminars.seyboldreports.com/2003_amsterdam/files/pfc1_erik_vanerp.pdf), retrieved Apr. 6, 2004.

<sup>12</sup> The chapter 11 reorganization of Goss Graphic Systems, the last major domestic large newspaper printing press manufacturer, continued through the period, leading to decreased exports of large printing press devices and parts.

<sup>13</sup> All Multi-functional digital ("MFD") office machines are capable of scanning documents and printing, and can be used to print digital camera images. Some of the machines also have fax capabilities through use of a connected modem. All of the machines are designed to operate in local area networks or in client/server environments. In 2002, U.S. Customs ruled that digital scanners and copiers with printing capability were to be classified as printing machinery. This likely led to some devices being moved from alternate classifications into printing machinery. Bureau of Customs and Border Protection Headquarters Ruling HQ 963680 issued Aug. 30, 2002.

<sup>14</sup> Olga Kharif, "Printing a Record of Growth", *Business Week Online*, Feb. 17, 2004, found at [http://www.businessweek.com/technology/content/feb2004/tc20040217\\_8510\\_tc055.htm](http://www.businessweek.com/technology/content/feb2004/tc20040217_8510_tc055.htm).

<sup>15</sup> "Consolidation Beat Goes On: Agfa Acquires Granite", *Print On Demand.com*, July 15, 2003, found at <http://www.printondemand.com/MT/archives/000613.html>.

Enterprises (SME) applications.<sup>16</sup> These advances have allowed SOHO and SME users to apply a single MFD device to print, scan, copy, and fax.

The majority of MFDs are produced in Asia,<sup>17</sup> and almost the entire increase of U.S. imports came from Japan (up \$1.5 billion, or 368 percent) and China (up \$1.1 billion, or 754 percent). Multiple electronics companies are launching new MFD product lines,<sup>18</sup> as are camera and film companies,<sup>19</sup> and multiple printer manufacturers have implemented multifunction drivers.<sup>20</sup>

**Christopher B. Mapes**  
**(202) 205-3034**  
**christopher.mapes@usitc.gov**

**Table MT-3**  
**U.S. imports of printing and related machinery, 1999-2003**

Item	1999	2000	2001	2002	2003	Change, 2003 from 2002		
						Absolute	Percent	
	————— <i>Million dollars</i> —————							
Office printing machines . . . . .	16	18	13	265	1,929	1,664	629	
Parts and accessories for office printing machines . . . . .	34	31	32	111	1,239	1,128	1,020	
Offset printing machinery . . . . .	867	731	591	425	411	-14	-3	
Flexographic printing machinery . .	78	74	67	81	125	44	53	
Bookbinding machinery, including book-sewing machines . . . . .	118	125	111	73	100	27	38	
Other printing machinery . . . . .	1,192	1,177	1,114	1,047	1,040	-7	-1	
<b>Total . . . . .</b>	<b>2,304</b>	<b>2,157</b>	<b>1,929</b>	<b>2,001</b>	<b>4,844</b>	<b>2,843</b>	<b>142</b>	

Note.—Calculations based on unrounded data.

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

<sup>16</sup> Calvin Siew, "Lexmark's multifunction galore", C/NET Asia, Oct. 16, 2003, found at <http://asia.cnet.com/reviews/hardware/printers/0,39001759,39154954,00.htm>.

<sup>17</sup> China's consumption is approximately one million per year, second only to the United States. From "Japanese Ricoh to Snatch China's Digital Network Market," People's Daily, Sept. 4, 2001, found at [http://fpeng.peopledaily.com.cn/200109/04/eng20010904\\_79286.html](http://fpeng.peopledaily.com.cn/200109/04/eng20010904_79286.html).

<sup>18</sup> For example, Hewlett-Packard; see [http://www.hp.com/united-states/consumer/gateway/printing\\_multifunction.html](http://www.hp.com/united-states/consumer/gateway/printing_multifunction.html).

<sup>19</sup> "Fuji Xerox and Fuji Photo Film Team Up to Launch "inter-Graphics" Service," JCN Newswire, Mar. 12, 2004, available at [http://www.jpancorp.net/Article.Asp?Art\\_ID=6826](http://www.jpancorp.net/Article.Asp?Art_ID=6826).

<sup>20</sup> For example, companies that have implemented Granite Systems drivers include Minolta, Minolta-QMS, Seiko-Epson, Toshiba, Fujitsu, and Panasonic, all of which are Asian-based. From "Consolidation Beat Goes On", *ibid.* Another printer migrating to MFDs is Xerox; see [http://www.xerox.com/go/xrx/equipment/product\\_landing.jsp?Xcentry=USA&Xlang=en\\_US](http://www.xerox.com/go/xrx/equipment/product_landing.jsp?Xcentry=USA&Xlang=en_US).

**Table MT-4**  
**Machinery : U.S. trade for industry/commodity groups and subgroups, 1999-2003<sup>1</sup>**

USITC code <sup>2</sup>	Industry/commodity group	1999	2000	2001	2002	2003	Change, 2003 from 2002	
							Absolute	Percent
<i>Million dollars</i>								
MM068	Wiring harnesses for motor vehicles:							
	Exports .....	993	938	866	961	868	-93	-9.7
	Imports .....	4,868	5,132	4,684	5,302	5,272	-30	-0.6
	Trade balance .....	-3,875	-4,194	-3,818	-4,341	-4,404	-63	-1.5
MM069	Pumps for motor vehicles:							
	Exports .....	546	680	642	681	690	9	1.4
	Imports .....	776	863	788	913	992	78	8.6
	Trade balance .....	-230	-183	-147	-232	-302	-69	-29.7
MM070	Pumps for liquids:							
	Exports .....	2,325	2,461	2,561	2,393	2,412	18	0.8
	Imports .....	1,643	1,809	1,801	1,883	2,180	296	15.7
	Trade balance .....	683	652	760	510	232	-278	-54.5
MM071	Air-conditioning equipment and parts:							
	Exports .....	5,641	5,884	5,694	5,318	5,334	16	0.3
	Imports .....	5,604	6,332	6,081	6,674	7,403	730	10.9
	Trade balance .....	37	-449	-387	-1,356	-2,070	-714	-52.6
MM072	Industrial thermal-processing equipment and furnaces:							
	Exports .....	2,292	2,631	2,496	2,064	2,099	35	1.7
	Imports .....	1,483	1,663	1,641	1,671	1,660	-11	-0.7
	Trade balance .....	809	968	855	393	439	46	11.6
MM073	Household appliances, including commercial applications:							
	Exports .....	5,216	5,563	5,226	4,892	4,810	-82	-1.7
	Imports .....	6,718	7,689	8,356	9,587	10,782	1,195	12.5
	Trade balance .....	-1,503	-2,126	-3,130	-4,695	-5,971	-1,277	-27.2
MM073A	Major household appliances and parts:							
	Exports .....	1,652	1,717	1,708	1,610	1,655	45	2.8
	Imports .....	1,477	1,642	1,986	2,444	2,868	423	17.3
	Trade balance .....	176	75	-278	-834	-1,212	-378	-45.3
MM074	Centrifuges and filtering and purifying equipment:							
	Exports .....	2,564	3,031	3,208	3,045	3,022	-24	-0.8
	Imports .....	1,783	2,010	2,275	2,403	2,663	260	10.8
	Trade balance .....	781	1,021	933	642	358	-284	-44.2
MM075	Wrapping, packaging, and can-sealing machinery:							
	Exports .....	766	804	711	639	637	-2	-0.3
	Imports .....	1,117	1,246	1,302	1,333	1,505	173	12.9
	Trade balance .....	-351	-442	-591	-694	-868	-174	-25.1
MM076	Scales and weighing machinery:							
	Exports .....	145	163	175	164	155	-9	-5.6
	Imports .....	265	294	279	293	375	82	27.9
	Trade balance .....	-121	-131	-104	-129	-220	-91	-70.6
MM077	Mineral processing machinery:							
	Exports .....	590	582	582	485	545	60	12.4
	Imports .....	667	723	576	565	627	61	10.8
	Trade balance .....	-78	-142	6	-81	-82	-1	-1.3

See footnote(s) at end of table.



Table MT-4--Continued

Machinery : U.S. trade for industry/commodity groups and subgroups, 1999-2003<sup>1</sup>

USITC code <sup>2</sup>	Industry/commodity group	1999	2000	2001	2002	2003	Change, 2003 from 2002	
							Absolute	Percent
<i>Million dollars</i>								
MM078	Farm and garden machinery and equipment:							
	Exports .....	4,757	4,945	4,565	4,747	5,109	362	7.6
	Imports .....	3,396	3,740	3,602	3,898	4,645	747	19.2
	Trade balance .....	1,361	1,205	963	848	464	-384	-45.3
MM079	Industrial food-processing and related machinery:							
	Exports .....	611	627	576	606	558	-48	-8.0
	Imports .....	621	543	537	570	684	114	20.0
	Trade balance .....	-9	83	40	36	-126	-162	( <sup>3</sup> )
MM080	Pulp, paper, and paperboard machinery:							
	Exports .....	743	779	678	560	648	88	15.7
	Imports .....	1,003	1,127	1,091	719	867	148	20.6
	Trade balance .....	-260	-348	-414	-159	-219	-60	-37.8
MM081	Printing and related machinery:							
	Exports .....	1,347	1,583	1,232	1,136	1,215	79	7.0
	Imports .....	2,304	2,157	1,929	2,001	4,844	2,843	142.1
	Trade balance .....	-958	-574	-697	-865	-3,628	-2,763	-319.5
MM082	Textile machinery:							
	Exports .....	974	978	897	871	810	-61	-7.0
	Imports .....	2,073	1,873	1,411	1,314	1,316	2	0.2
	Trade balance .....	-1,099	-895	-515	-442	-506	-63	-14.3
MM083	Metal rolling mills:							
	Exports .....	153	164	210	169	182	13	7.7
	Imports .....	321	261	180	163	210	47	28.9
	Trade balance .....	-168	-97	30	7	-27	-34	( <sup>3</sup> )
MM084	Metal cutting machine tools and machine tool accessories:							
	Exports .....	1,773	2,264	1,809	1,634	1,585	-48	-2.9
	Imports .....	3,921	4,240	3,407	2,558	2,704	146	5.7
	Trade balance .....	-2,148	-1,977	-1,598	-924	-1,118	-194	-21.0
MM085	Metal forming machine tools:							
	Exports .....	934	876	743	652	691	39	6.0
	Imports .....	1,312	1,474	1,331	846	933	87	10.3
	Trade balance .....	-378	-598	-588	-194	-242	-49	-25.0
MM086	Non-metalworking machine tools:							
	Exports .....	772	1,080	807	768	711	-57	-7.4
	Imports .....	1,318	1,524	1,276	1,242	1,330	88	7.1
	Trade balance .....	-546	-443	-468	-474	-619	-145	-30.6
MM087	Semiconductor manufacturing equipment and robotics:							
	Exports .....	8,176	14,585	8,553	7,341	7,599	258	3.5
	Imports .....	3,123	5,167	4,389	3,679	3,152	-526	-14.3
	Trade balance .....	5,052	9,418	4,164	3,662	4,446	784	21.4
MM087A	Semiconductor manufacturing machinery:							
	Exports .....	7,907	13,866	8,044	6,972	7,242	269	3.9
	Imports .....	2,600	4,597	3,947	3,304	2,750	-555	-16.8
	Trade balance .....	5,307	9,269	4,096	3,668	4,492	824	22.5

See footnote(s) at end of table.

Table MT-4--Continued

Machinery : U.S. trade for industry/commodity groups and subgroups, 1999-2003<sup>1</sup>

USITC code <sup>2</sup>	Industry/commodity group	1999	2000	2001	2002	2003	Change, 2003 from 2002	
							Absolute	Percent
<i>Million dollars</i>								
MM088	Taps, cocks, valves, and similar devices:							
	Exports .....	2,959	3,284	3,351	3,202	3,329	127	4.0
	Imports .....	4,335	5,021	4,809	5,156	5,500	345	6.7
	Trade balance .....	-1,376	-1,737	-1,458	-1,954	-2,171	-217	-11.1
MM089	Mechanical power transmission equipment:							
	Exports .....	942	1,029	939	936	1,054	118	12.6
	Imports .....	2,008	2,134	2,004	1,994	2,222	228	11.5
	Trade balance .....	-1,066	-1,105	-1,066	-1,057	-1,168	-110	-10.4
MM090	Boilers, turbines, and related machinery:							
	Exports .....	1,290	1,117	1,106	892	875	-17	-1.9
	Imports .....	484	833	1,204	1,514	881	-633	-41.8
	Trade balance .....	806	284	-98	-622	-6	616	99.1
MM091	Electric motors, generators, and related equipment:							
	Exports .....	3,728	3,748	4,691	3,923	4,031	108	2.8
	Imports .....	6,089	6,494	7,646	7,177	6,811	-366	-5.1
	Trade balance .....	-2,362	-2,746	-2,954	-3,255	-2,780	474	14.6
MM092	Electrical transformers, static converters, and inductors:							
	Exports .....	2,379	2,752	2,436	1,784	1,767	-17	-0.9
	Imports .....	4,950	6,156	5,134	4,707	4,680	-27	-0.6
	Trade balance .....	-2,571	-3,404	-2,698	-2,923	-2,912	10	0.3
MM093	Portable electric handtools:							
	Exports .....	392	359	291	212	191	-21	-9.9
	Imports .....	992	1,166	1,185	1,434	1,777	344	24.0
	Trade balance .....	-600	-808	-894	-1,222	-1,586	-365	-29.8
MM094	Nonelectrically powered handtools and parts thereof:							
	Exports .....	537	563	563	549	578	29	5.2
	Imports .....	890	933	901	961	992	30	3.2
	Trade balance .....	-353	-370	-338	-412	-414	-2	-0.4
MM095	Electric lamps (bulbs) and portable electric lights:							
	Exports .....	894	897	799	750	721	-29	-3.9
	Imports .....	1,454	1,579	1,785	1,687	1,748	61	3.6
	Trade balance .....	-561	-682	-986	-937	-1,028	-90	-9.6
MM096	Welding and soldering equipment:							
	Exports .....	989	1,050	703	635	618	-17	-2.6
	Imports .....	702	803	803	761	996	235	30.9
	Trade balance .....	287	247	-101	-126	-378	-252	-199.5
MM097	Nonautomotive insulated electrical wire and related products:							
	Exports .....	3,102	4,040	3,286	2,856	2,660	-196	-6.9
	Imports .....	3,078	3,566	3,203	3,076	3,208	132	4.3
	Trade balance .....	24	474	83	-220	-548	-328	-149.0
MM098	Miscellaneous machinery:							
	Exports .....	6,792	7,922	7,366	6,793	6,409	-384	-5.7
	Imports .....	6,220	7,241	6,455	6,133	6,917	785	12.8
	Trade balance .....	572	682	911	660	-508	-1,169	( <sup>3</sup> )

See footnote(s) at end of table.

Table MT-4--Continued

Machinery : U.S. trade for industry/commodity groups and subgroups, 1999-2003<sup>1</sup>

USITC code <sup>2</sup>	Industry/commodity group	1999	2000	2001	2002	2003	Change, 2003 from 2002	
							Absolute	Percent
<i>Million dollars</i>								
MM099	Molds and molding machinery:							
	Exports .....	1,879	2,129	1,791	1,605	1,550	-55	-3.4
	Imports .....	3,723	3,613	2,803	2,969	3,262	293	9.9
	Trade balance .....	-1,844	-1,484	-1,012	-1,363	-1,712	-348	-25.6

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

<sup>2</sup>This 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

<sup>3</sup>Not 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-5

## Machinery sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 1999-2003

USITC code	Industry/commodity group	1999	2000	2001	2002	2003	Percent change, 2003 from 2002
MM068	Wiring harnesses for motor vehicles:						
	Number of establishments . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Employees (thousands) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	Capacity utilization (percent) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars) . . . . .	6,150	6,240	5,740	6,450	6,100	-5.4
	U.S. exports (million dollars) . . . . .	993	938	866	961	868	-9.7
	U.S. imports (million dollars) . . . . .	4,868	5,132	4,684	5,302	5,272	-0.6
	Apparent U.S. consumption (million dollars) . . . . .	10,025	10,434	9,558	10,791	10,504	-2.7
	Trade balance (million dollars) . . . . .	-3,875	-4,194	-3,818	-4,341	-4,404	-1.5
	Ratio of imports to consumption (percent) . . . . .	48.6	49.2	49.0	49.1	50.2	2.2
	Ratio of exports to shipments (percent) . . . . .	16.1	15.0	15.1	14.9	14.2	-4.7
MM069	Pumps for motor vehicles:						
	Number of establishments . . . . .	202	195	215	225	202	-10.2
	Employees (thousands) . . . . .	27.0	25.0	28.0	30.0	27.0	-10.0
	Capacity utilization (percent) . . . . .	72	72	76	78	72	-7.7
	U.S. shipments (million dollars) . . . . .	2,982	3,012	3,223	3,384	3,046	-10.0
	U.S. exports (million dollars) . . . . .	546	680	642	681	690	1.4
	U.S. imports (million dollars) . . . . .	776	863	788	913	992	8.6
	Apparent U.S. consumption (million dollars) . . . . .	3,212	3,195	3,370	3,616	3,348	-7.4
	Trade balance (million dollars) . . . . .	-230	-183	-147	-232	-302	-29.7
	Ratio of imports to consumption (percent) . . . . .	24.2	27.0	23.4	25.3	29.6	17.0
	Ratio of exports to shipments (percent) . . . . .	18.3	22.6	19.9	20.1	22.7	12.9
MM070	Pumps for liquids:						
	Number of establishments . . . . .	450	460	485	475	453	-4.6
	Employees (thousands) . . . . .	36.0	37.0	37.0	35.0	31.0	-11.4
	Capacity utilization (percent) . . . . .	69	70	70	69	66	-4.3
	U.S. shipments (million dollars) . . . . .	6,603	6,800	6,936	6,867	6,660	-3.0
	U.S. exports (million dollars) . . . . .	2,325	2,461	2,561	2,393	2,412	0.8
	U.S. imports (million dollars) . . . . .	1,643	1,809	1,801	1,883	2,180	15.7
	Apparent U.S. consumption (million dollars) . . . . .	5,920	6,148	6,176	6,357	6,428	1.1
	Trade balance (million dollars) . . . . .	683	652	760	510	232	-54.5
	Ratio of imports to consumption (percent) . . . . .	27.7	29.4	29.2	29.6	33.9	14.5
	Ratio of exports to shipments (percent) . . . . .	35.2	36.2	36.9	34.8	36.2	4.0

See footnote(s) at end of table.

Table MT-5—Continued

## Machinery sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 1999-2003

USITC code	Industry/commodity group	1999	2000	2001	2002	2003	Percent change, 2003 from 2002
MM071	Air-conditioning equipment and parts:						
	Number of establishments . . . . .	1,225	1,262	1,295	1,240	1,265	2.0
	Employees (thousands) . . . . .	148.0	151.0	155.0	142.0	134.0	-5.6
	Capacity utilization (percent) . . . . .	73	75	76	71	71	0.0
	U.S. shipments (million dollars) . . . . .	26,500	27,030	28,111	23,894	24,372	2.0
	U.S. exports (million dollars) . . . . .	5,641	5,884	5,694	5,318	5,334	( <sup>2</sup> )
	U.S. imports (million dollars) . . . . .	5,604	6,332	6,081	6,674	7,403	10.9
	Apparent U.S. consumption (million dollars) . . . . .	26,463	27,479	28,498	25,250	26,442	4.7
	Trade balance (million dollars) . . . . .	37	-449	-387	-1,356	-2,070	-52.6
	Ratio of imports to consumption (percent) . . . . .	21.2	23.0	21.3	26.4	28.0	6.1
	Ratio of exports to shipments (percent) . . . . .	21.3	21.8	20.3	22.3	21.9	-1.8
MM072	Industrial thermal-processing equipment and furnaces:						
	Number of establishments . . . . .	329	331	320	325	323	-0.6
	Employees (thousands) . . . . .	33.0	34.0	32.0	32.0	32.0	0.0
	Capacity utilization (percent) . . . . .	67	68	66	67	66	-1.5
	U.S. shipments (million dollars) . . . . .	3,715	3,752	3,564	3,599	3,675	2.1
	U.S. exports (million dollars) . . . . .	2,292	2,631	2,496	2,064	2,099	1.7
	U.S. imports (million dollars) . . . . .	1,483	1,663	1,641	1,671	1,660	-0.7
	Apparent U.S. consumption (million dollars) . . . . .	2,906	2,784	2,709	3,206	3,236	0.9
	Trade balance (million dollars) . . . . .	809	968	855	393	439	11.6
	Ratio of imports to consumption (percent) . . . . .	51.0	59.7	60.6	52.1	51.3	-1.5
	Ratio of exports to shipments (percent) . . . . .	61.7	70.1	70.0	57.4	57.1	-0.5
MM073	Household appliances, including commercial applications:						
	Number of establishments . . . . .	100	87	98	95	99	4.2
	Employees (thousands) . . . . .	57.0	50.0	55.0	53.0	53.0	0.0
	Capacity utilization (percent) . . . . .	71	67	70	69	70	1.4
	U.S. shipments (million dollars) . . . . .	15,867	15,111	15,741	15,427	15,736	2.0
	U.S. exports (million dollars) . . . . .	5,216	5,563	5,226	4,892	4,810	-1.7
	U.S. imports (million dollars) . . . . .	6,718	7,689	8,356	9,587	10,782	12.5
	Apparent U.S. consumption (million dollars) . . . . .	17,370	17,237	18,871	20,122	21,707	7.9
	Trade balance (million dollars) . . . . .	-1,503	-2,126	-3,130	-4,695	-5,971	-27.2
	Ratio of imports to consumption (percent) . . . . .	38.7	44.6	44.3	47.6	49.7	4.4
	Ratio of exports to shipments (percent) . . . . .	32.9	36.8	33.2	31.7	30.6	-3.5

See footnote(s) at end of table.

Table MT-5—Continued

## Machinery sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 1999-2003

USITC code	Industry/commodity group	1999	2000	2001	2002	2003	Percent change, 2003 from 2002
MM073A	Major household appliances and parts:						
	Number of establishments . . . . .	197	238	251	255	282	10.6
	Employees (thousands) . . . . .	66.0	73.0	75.0	76.0	78.0	2.6
	Capacity utilization (percent) . . . . .	67	69	70	71	75	5.6
	U.S. shipments (million dollars) . . . . .	13,171	13,981	14,259	14,544	15,126	4.0
	U.S. exports (million dollars) . . . . .	1,652	1,717	1,708	1,610	1,655	2.8
	U.S. imports (million dollars) . . . . .	1,477	1,642	1,986	2,444	2,868	17.3
	Apparent U.S. consumption (million dollars) . . . . .	12,995	13,906	14,537	15,378	16,338	6.2
	Trade balance (million dollars) . . . . .	176	75	-278	-834	-1,212	-45.3
	Ratio of imports to consumption (percent) . . . . .	11.4	11.8	13.7	15.9	17.6	10.7
	Ratio of exports to shipments (percent) . . . . .	12.5	12.3	12.0	11.1	10.9	-1.8
MM075	Wrapping, packaging, and can-sealing machinery:						
	Number of establishments . . . . .	756	784	813	813	813	0.0
	Employees (thousands) . . . . .	31.0	29.0	28.0	29.0	30.0	3.4
	Capacity utilization (percent) . . . . .	67	62	59	72	75	4.2
	U.S. shipments (million dollars) . . . . .	4,119	4,202	3,939	4,807	4,951	3.0
	U.S. exports (million dollars) . . . . .	766	804	711	639	637	-0.3
	U.S. imports (million dollars) . . . . .	1,117	1,246	1,302	1,333	1,505	12.9
	Apparent U.S. consumption (million dollars) . . . . .	4,470	4,644	4,530	5,501	5,819	5.8
	Trade balance (million dollars) . . . . .	-351	-442	-591	-694	-868	-25.1
	Ratio of imports to consumption (percent) . . . . .	25.0	26.8	28.7	24.2	25.9	7.0
	Ratio of exports to shipments (percent) . . . . .	18.6	19.1	18.1	13.3	12.9	-3.0
MM076	Scales and weighing machinery:						
	Number of establishments . . . . .	119	117	121	120	119	-0.8
	Employees (thousands) . . . . .	4.9	4.9	5.0	4.8	4.6	-4.2
	Capacity utilization (percent) . . . . .	66	56	57	58	60	3.4
	U.S. shipments (million dollars) . . . . .	752	765	756	784	814	3.8
	U.S. exports (million dollars) . . . . .	145	163	175	164	155	-5.6
	U.S. imports (million dollars) . . . . .	265	294	279	293	375	27.9
	Apparent U.S. consumption (million dollars) . . . . .	873	896	860	913	1,034	13.3
	Trade balance (million dollars) . . . . .	-121	-131	-104	-129	-220	-70.6
	Ratio of imports to consumption (percent) . . . . .	30.4	32.8	32.4	32.1	36.3	13.1
	Ratio of exports to shipments (percent) . . . . .	19.3	21.4	23.2	21.0	19.1	-9.0

See footnote(s) at end of table.

Table MT-5—Continued

## Machinery sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 1999-2003

USITC code	Industry/commodity group	1999	2000	2001	2002	2003	Percent change, 2003 from 2002
MM077	Mineral processing machinery:						
	Number of establishments . . . . .	89	85	84	83	82	-1.2
	Employees (thousands) . . . . .	6.0	6.0	5.0	5.0	5.0	0.0
	Capacity utilization (percent) . . . . .	64	57	59	53	53	0.0
	U.S. shipments (million dollars) . . . . .	1,563	1,542	1,542	1,286	1,285	-0.1
	U.S. exports (million dollars) . . . . .	590	582	582	485	545	12.4
	U.S. imports (million dollars) . . . . .	667	723	576	565	627	10.8
	Apparent U.S. consumption (million dollars) . . . . .	1,641	1,684	1,536	1,367	1,367	0.0
	Trade balance (million dollars) . . . . .	-78	-142	6	-81	-82	-1.3
	Ratio of imports to consumption (percent) . . . . .	40.7	43.0	37.5	41.4	45.8	10.6
	Ratio of exports to shipments (percent) . . . . .	37.7	37.7	37.7	37.7	42.4	12.5
MM078	Farm and garden machinery and equipment:						
	Number of establishments . . . . .	1,870	1,800	1,700	1,500	1,450	-3.3
	Employees (thousands) . . . . .	98.0	97.0	95.0	90.0	87.0	-3.3
	Capacity utilization (percent) . . . . .	63	67	67	67	75	11.9
	U.S. shipments (million dollars) . . . . .	18,013	19,676	18,582	17,653	19,418	10.0
	U.S. exports (million dollars) . . . . .	4,757	4,945	4,565	4,747	5,109	7.6
	U.S. imports (million dollars) . . . . .	3,396	3,740	3,602	3,898	4,645	19.2
	Apparent U.S. consumption (million dollars) . . . . .	16,652	18,471	17,619	16,805	18,954	12.8
	Trade balance (million dollars) . . . . .	1,361	1,205	963	848	464	-45.3
	Ratio of imports to consumption (percent) . . . . .	20.4	20.2	20.4	23.2	24.5	5.6
	Ratio of exports to shipments (percent) . . . . .	26.4	25.1	24.6	26.9	26.3	-2.2
MM079	Industrial food-processing and related machinery:						
	Number of establishments . . . . .	582	591	600	615	616	( <sup>2</sup> )
	Employees (thousands) . . . . .	19.0	18.0	18.0	18.0	19.0	5.6
	Capacity utilization (percent) . . . . .	72	67	66	68	71	4.4
	U.S. shipments (million dollars) . . . . .	2,614	2,563	2,404	2,514	2,600	3.4
	U.S. exports (million dollars) . . . . .	611	627	576	606	558	-8.0
	U.S. imports (million dollars) . . . . .	621	543	537	570	684	20.0
	Apparent U.S. consumption (million dollars) . . . . .	2,623	2,480	2,364	2,478	2,726	10.0
	Trade balance (million dollars) . . . . .	-9	83	40	36	-126	( <sup>3</sup> )
	Ratio of imports to consumption (percent) . . . . .	23.7	21.9	22.7	23.0	25.1	9.1
	Ratio of exports to shipments (percent) . . . . .	23.4	24.5	24.0	24.1	21.5	-10.8

See footnote(s) at end of table.

Table MT-5—Continued

## Machinery sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 1999-2003

USITC code	Industry/commodity group	1999	2000	2001	2002	2003	Percent change, 2003 from 2002
MM080	Pulp, paper, and paperboard machinery:						
	Number of establishments . . . . .	351	335	319	297	305	2.7
	Employees (thousands) . . . . .	16.8	14.2	13.2	12.4	12.7	2.4
	Capacity utilization (percent) . . . . .	60	64	72	82	82	0.0
	U.S. shipments (million dollars) . . . . .	2,941	2,761	2,708	2,597	2,747	5.8
	U.S. exports (million dollars) . . . . .	743	779	678	560	648	15.7
	U.S. imports (million dollars) . . . . .	1,003	1,127	1,091	719	867	20.6
	Apparent U.S. consumption (million dollars) . . . . .	3,201	3,109	3,122	2,756	2,966	7.6
	Trade balance (million dollars) . . . . .	-260	-348	-414	-159	-219	-37.8
	Ratio of imports to consumption (percent) . . . . .	31.3	36.2	35.0	26.1	29.2	11.9
	Ratio of exports to shipments (percent) . . . . .	25.3	28.2	25.0	21.5	23.6	9.8
MM081	Printing and related machinery:						
	Number of establishments . . . . .	523	520	499	484	470	-2.9
	Employees (thousands) . . . . .	19.5	18.6	18.2	17.7	17.3	-2.3
	Capacity utilization (percent) . . . . .	67	69	63	59	64	8.5
	U.S. shipments (million dollars) . . . . .	3,606	3,827	3,865	3,919	3,973	1.4
	U.S. exports (million dollars) . . . . .	1,347	1,583	1,232	1,136	1,215	7.0
	U.S. imports (million dollars) . . . . .	2,304	2,157	1,929	2,001	4,844	142.1
	Apparent U.S. consumption (million dollars) . . . . .	4,564	4,401	4,562	4,784	7,601	58.9
	Trade balance (million dollars) . . . . .	-958	-574	-697	-865	-3,628	-319.5
	Ratio of imports to consumption (percent) . . . . .	50.5	49.0	42.3	41.8	63.7	52.4
	Ratio of exports to shipments (percent) . . . . .	37.3	41.4	31.9	29.0	30.6	5.5
MM082	Textile machinery:						
	Number of establishments . . . . .	500	500	500	420	400	-4.8
	Employees (thousands) . . . . .	13.0	13.0	12.0	10.0	8.0	-20.0
	Capacity utilization (percent) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars) . . . . .	1,546	1,648	1,417	1,377	1,308	-5.0
	U.S. exports (million dollars) . . . . .	974	978	897	871	810	-7.0
	U.S. imports (million dollars) . . . . .	2,073	1,873	1,411	1,314	1,316	( <sup>2</sup> )
	Apparent U.S. consumption (million dollars) . . . . .	2,645	2,543	1,932	1,819	1,814	-0.3
	Trade balance (million dollars) . . . . .	-1,099	-895	-515	-442	-506	-14.3
	Ratio of imports to consumption (percent) . . . . .	78.4	73.6	73.1	72.2	72.5	( <sup>2</sup> )
	Ratio of exports to shipments (percent) . . . . .	63.0	59.3	63.3	63.3	61.9	-2.2

See footnote(s) at end of table.



Table MT-5—Continued

## Machinery sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 1999-2003

USITC code	Industry/commodity group	1999	2000	2001	2002	2003	Percent change, 2003 from 2002
MM083	Metal rolling mills:						
	Number of establishments . . . . .	15	15	15	15	15	0.0
	Employees (thousands) . . . . .	3.0	3.0	3.0	3.0	3.0	0.0
	Capacity utilization (percent) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars) . . . . .	511	545	699	584	570	-2.4
	U.S. exports (million dollars) . . . . .	153	164	210	169	182	7.7
	U.S. imports (million dollars) . . . . .	321	261	180	163	210	28.9
	Apparent U.S. consumption (million dollars) . . . . .	679	642	669	577	597	3.5
	Trade balance (million dollars) . . . . .	-168	-97	30	7	-27	( <sup>3</sup> )
	Ratio of imports to consumption (percent) . . . . .	47.3	40.7	26.9	28.2	35.1	24.5
	Ratio of exports to shipments (percent) . . . . .	30.0	30.0	30.1	29.0	32.0	10.3
MM084	Metal cutting machine tools and machine tool accessories:						
	Number of establishments . . . . .	700	650	600	400	370	-7.5
	Employees (thousands) . . . . .	84.0	81.0	75.0	66.0	62.0	-6.1
	Capacity utilization (percent) . . . . .	70	68	63	60	60	0.0
	U.S. shipments (million dollars) . . . . .	6,825	6,933	5,877	3,838	3,728	-2.9
	U.S. exports (million dollars) . . . . .	1,773	2,264	1,809	1,634	1,585	-2.9
	U.S. imports (million dollars) . . . . .	3,921	4,240	3,407	2,558	2,704	5.7
	Apparent U.S. consumption (million dollars) . . . . .	8,973	8,910	7,475	4,762	4,846	1.8
	Trade balance (million dollars) . . . . .	-2,148	-1,977	-1,598	-924	-1,118	-21.0
	Ratio of imports to consumption (percent) . . . . .	43.7	47.6	45.6	53.7	55.8	3.9
	Ratio of exports to shipments (percent) . . . . .	26.0	32.6	30.8	42.6	42.5	-0.2
MM085	Metal forming machine tools:						
	Number of establishments . . . . .	250	250	220	200	175	-12.5
	Employees (thousands) . . . . .	28.0	27.0	20.0	15.0	14.0	-6.7
	Capacity utilization (percent) . . . . .	75	66	62	60	60	0.0
	U.S. shipments (million dollars) . . . . .	2,980	2,890	2,185	1,647	1,616	-1.9
	U.S. exports (million dollars) . . . . .	934	876	743	652	691	6.0
	U.S. imports (million dollars) . . . . .	1,312	1,474	1,331	846	933	10.3
	Apparent U.S. consumption (million dollars) . . . . .	3,358	3,488	2,773	1,841	1,858	1.0
	Trade balance (million dollars) . . . . .	-378	-598	-588	-194	-242	-25.0
	Ratio of imports to consumption (percent) . . . . .	39.1	42.3	48.0	46.0	50.2	9.1
	Ratio of exports to shipments (percent) . . . . .	31.3	30.3	34.0	39.6	42.8	8.1

See footnote(s) at end of table.

Table MT-5—Continued

## Machinery sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 1999-2003

USITC code	Industry/commodity group	1999	2000	2001	2002	2003	Percent change, 2003 from 2002
MM086	Non-metalworking machine tools:						
	Number of establishments . . . . .	280	260	240	200	190	-5.0
	Employees (thousands) . . . . .	41.0	42.0	36.0	34.0	33.0	-2.9
	Capacity utilization (percent) . . . . .	80	77	75	70	68	-2.9
	U.S. shipments (million dollars) . . . . .	6,170	6,320	5,396	5,126	5,023	-2.0
	U.S. exports (million dollars) . . . . .	772	1,080	807	768	711	-7.4
	U.S. imports (million dollars) . . . . .	1,318	1,524	1,276	1,242	1,330	7.1
	Apparent U.S. consumption (million dollars) . . . . .	6,716	6,763	5,864	5,600	5,642	0.8
	Trade balance (million dollars) . . . . .	-546	-443	-468	-474	-619	-30.6
	Ratio of imports to consumption (percent) . . . . .	19.6	22.5	21.7	22.2	23.6	6.3
	Ratio of exports to shipments (percent) . . . . .	12.5	17.1	15.0	15.0	14.1	-6.0
MM087A	Semiconductor manufacturing machinery:						
	Number of establishments . . . . .	390	410	405	400	400	0.0
	Employees (thousands) . . . . .	37.0	48.0	36.0	34.0	34.0	0.0
	Capacity utilization (percent) . . . . .	75	90	72	81	82	1.2
	U.S. shipments (million dollars) . . . . .	11,231	16,846	11,850	10,200	10,600	3.9
	U.S. exports (million dollars) . . . . .	7,907	13,866	8,044	6,972	7,242	3.9
	U.S. imports (million dollars) . . . . .	2,600	4,597	3,947	3,304	2,750	-16.8
	Apparent U.S. consumption (million dollars) . . . . .	5,924	7,577	7,754	6,532	6,108	-6.5
	Trade balance (million dollars) . . . . .	5,307	9,269	4,096	3,668	4,492	22.5
	Ratio of imports to consumption (percent) . . . . .	43.9	60.7	50.9	50.6	45.0	-11.1
	Ratio of exports to shipments (percent) . . . . .	70.4	82.3	67.9	68.4	68.3	-0.1
MM088	Taps, cocks, valves, and similar devices:						
	Number of establishments . . . . .	797	785	725	695	666	-4.2
	Employees (thousands) . . . . .	70.0	70.0	67.0	64.0	62.0	-3.1
	Capacity utilization (percent) . . . . .	75	74	70	68	64	-5.9
	U.S. shipments (million dollars) . . . . .	11,687	11,804	11,450	11,221	10,772	-4.0
	U.S. exports (million dollars) . . . . .	2,959	3,284	3,351	3,202	3,329	4.0
	U.S. imports (million dollars) . . . . .	4,335	5,021	4,809	5,156	5,500	6.7
	Apparent U.S. consumption (million dollars) . . . . .	13,063	13,541	12,908	13,175	12,943	-1.8
	Trade balance (million dollars) . . . . .	-1,376	-1,737	-1,458	-1,954	-2,171	-11.1
	Ratio of imports to consumption (percent) . . . . .	33.2	37.1	37.3	39.1	42.5	8.7
	Ratio of exports to shipments (percent) . . . . .	25.3	27.8	29.3	28.5	30.9	8.4

See footnote(s) at end of table.

Table MT-5—Continued

## Machinery sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 1999-2003

USITC code	Industry/commodity group	1999	2000	2001	2002	2003	Percent change, 2003 from 2002
MM089	Mechanical power transmission equipment:						
	Number of establishments . . . . .	200	170	140	130	130	0.0
	Employees (thousands) . . . . .	37.0	37.0	35.0	32.0	31.0	-3.1
	Capacity utilization (percent) . . . . .	65	62	62	60	60	0.0
	U.S. shipments (million dollars) . . . . .	4,942	5,051	4,441	4,219	4,092	-3.0
	U.S. exports (million dollars) . . . . .	942	1,029	939	936	1,054	12.6
	U.S. imports (million dollars) . . . . .	2,008	2,134	2,004	1,994	2,222	11.5
	Apparent U.S. consumption (million dollars) . . . . .	6,008	6,156	5,507	5,276	5,260	-0.3
	Trade balance (million dollars) . . . . .	-1,066	-1,105	-1,066	-1,057	-1,168	-10.4
	Ratio of imports to consumption (percent) . . . . .	33.4	34.7	36.4	37.8	42.2	11.6
	Ratio of exports to shipments (percent) . . . . .	19.1	20.4	21.1	22.2	25.8	16.2
MM090	Boilers, turbines, and related machinery:						
	Number of establishments . . . . .	28	28	28	28	26	-7.1
	Employees (thousands) . . . . .	8.0	8.0	8.0	8.0	7.0	-12.5
	Capacity utilization (percent) . . . . .	65	65	65	70	65	-7.1
	U.S. shipments (million dollars) . . . . .	1,465	1,543	1,648	2,240	2,050	-8.5
	U.S. exports (million dollars) . . . . .	1,290	1,117	1,106	892	875	-1.9
	U.S. imports (million dollars) . . . . .	484	833	1,204	1,514	881	-41.8
	Apparent U.S. consumption (million dollars) . . . . .	659	1,259	1,746	2,862	2,056	-28.2
	Trade balance (million dollars) . . . . .	806	284	-98	-622	-6	99.1
	Ratio of imports to consumption (percent) . . . . .	73.5	66.2	68.9	52.9	42.8	-19.1
	Ratio of exports to shipments (percent) . . . . .	88.1	72.4	67.1	39.8	42.7	7.3
MM091	Electric motors, generators, and related equipment:						
	Number of establishments . . . . .	510	505	505	500	495	-1.0
	Employees (thousands) . . . . .	95.0	93.0	95.0	92.0	90.0	-2.2
	Capacity utilization (percent) . . . . .	75	73	76	72	70	-2.8
	U.S. shipments (million dollars) . . . . .	19,150	19,020	20,540	18,700	18,000	-3.7
	U.S. exports (million dollars) . . . . .	3,728	3,748	4,691	3,923	4,031	2.8
	U.S. imports (million dollars) . . . . .	6,089	6,494	7,646	7,177	6,811	-5.1
	Apparent U.S. consumption (million dollars) . . . . .	21,512	21,766	23,494	21,955	20,780	-5.3
	Trade balance (million dollars) . . . . .	-2,362	-2,746	-2,954	-3,255	-2,780	14.6
	Ratio of imports to consumption (percent) . . . . .	28.3	29.8	32.5	32.7	32.8	( <sup>2</sup> )
	Ratio of exports to shipments (percent) . . . . .	19.5	19.7	22.8	21.0	22.4	6.7

See footnote(s) at end of table.

Table MT-5—Continued

## Machinery sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 1999-2003

USITC code	Industry/commodity group	1999	2000	2001	2002	2003	Percent change, 2003 from 2002
MM092	Electrical transformers, static converters, and inductors:						
	Number of establishments . . . . .	420	415	410	405	400	-1.2
	Employees (thousands) . . . . .	57.0	55.0	53.0	52.0	50.0	-3.8
	Capacity utilization (percent) . . . . .	76	73	71	70	72	2.9
	U.S. shipments (million dollars) . . . . .	8,600	8,470	7,625	6,520	6,300	-3.4
	U.S. exports (million dollars) . . . . .	2,379	2,752	2,436	1,784	1,767	-0.9
	U.S. imports (million dollars) . . . . .	4,950	6,156	5,134	4,707	4,680	-0.6
	Apparent U.S. consumption (million dollars) . . . . .	11,171	11,874	10,323	9,443	9,212	-2.4
	Trade balance (million dollars) . . . . .	-2,571	-3,404	-2,698	-2,923	-2,912	( <sup>2</sup> )
	Ratio of imports to consumption (percent) . . . . .	44.3	51.8	49.7	49.8	50.8	2.0
	Ratio of exports to shipments (percent) . . . . .	27.7	32.5	31.9	27.4	28.1	2.6
MM093	Portable electric handtools:						
	Number of establishments . . . . .	28	27	25	24	21	-12.5
	Employees (thousands) . . . . .	9.0	9.0	8.0	7.0	5.0	-28.6
	Capacity utilization (percent) . . . . .	81	83	80	75	70	-6.7
	U.S. shipments (million dollars) . . . . .	2,280	2,390	2,080	1,950	1,900	-2.6
	U.S. exports (million dollars) . . . . .	392	359	291	212	191	-9.9
	U.S. imports (million dollars) . . . . .	992	1,166	1,185	1,434	1,777	24.0
	Apparent U.S. consumption (million dollars) . . . . .	2,880	3,198	2,974	3,172	3,486	9.9
	Trade balance (million dollars) . . . . .	-600	-808	-894	-1,222	-1,586	-29.8
	Ratio of imports to consumption (percent) . . . . .	34.5	36.5	39.8	45.2	51.0	12.8
	Ratio of exports to shipments (percent) . . . . .	17.2	15.0	14.0	10.9	10.1	-7.3
MM094	Nonelectrically powered handtools and parts thereof:						
	Number of establishments . . . . .	38	35	30	25	25	0.0
	Employees (thousands) . . . . .	12.0	13.0	13.0	12.0	11.0	-8.3
	Capacity utilization (percent) . . . . .	78	77	75	70	68	-2.9
	U.S. shipments (million dollars) . . . . .	1,878	1,974	1,916	1,840	1,803	-2.0
	U.S. exports (million dollars) . . . . .	537	563	563	549	578	5.2
	U.S. imports (million dollars) . . . . .	890	933	901	961	992	3.2
	Apparent U.S. consumption (million dollars) . . . . .	2,231	2,344	2,254	2,252	2,217	-1.6
	Trade balance (million dollars) . . . . .	-353	-370	-338	-412	-414	-0.4
	Ratio of imports to consumption (percent) . . . . .	39.9	39.8	40.0	42.7	44.7	4.7
	Ratio of exports to shipments (percent) . . . . .	28.6	28.5	29.4	29.8	32.0	7.4

See footnote(s) at end of table.

Table MT-5—Continued

## Machinery sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 1999-2003

USITC code	Industry/commodity group	1999	2000	2001	2002	2003	Percent change, 2003 from 2002
MM095	Electric lamps (bulbs) and portable electric lights:						
	Number of establishments . . . . .	120	115	110	105	100	-4.8
	Employees (thousands) . . . . .	22.0	21.0	20.0	19.0	17.0	-10.5
	Capacity utilization (percent) . . . . .	70	68	65	64	62	-3.1
	U.S. shipments (million dollars) . . . . .	3,400	3,500	3,300	3,250	3,100	-4.6
	U.S. exports (million dollars) . . . . .	894	897	799	750	721	-3.9
	U.S. imports (million dollars) . . . . .	1,454	1,579	1,785	1,687	1,748	3.6
	Apparent U.S. consumption (million dollars) . . . . .	3,961	4,182	4,286	4,187	4,128	-1.4
	Trade balance (million dollars) . . . . .	-561	-682	-986	-937	-1,028	-9.6
	Ratio of imports to consumption (percent) . . . . .	36.7	37.8	41.7	40.3	42.4	5.2
	Ratio of exports to shipments (percent) . . . . .	26.3	25.6	24.2	23.1	23.2	( <sup>2</sup> )
MM096	Welding and soldering equipment:						
	Number of establishments . . . . .	250	250	240	225	200	-11.1
	Employees (thousands) . . . . .	18.0	18.0	17.0	16.0	13.0	-18.8
	Capacity utilization (percent) . . . . .	78	78	77	75	60	-20.0
	U.S. shipments (million dollars) . . . . .	4,500	4,770	4,250	3,930	3,200	-18.6
	U.S. exports (million dollars) . . . . .	989	1,050	703	635	618	-2.6
	U.S. imports (million dollars) . . . . .	702	803	803	761	996	30.9
	Apparent U.S. consumption (million dollars) . . . . .	4,213	4,523	4,351	4,056	3,578	-11.8
	Trade balance (million dollars) . . . . .	287	247	-101	-126	-378	-199.5
	Ratio of imports to consumption (percent) . . . . .	16.7	17.7	18.5	18.8	27.8	47.9
	Ratio of exports to shipments (percent) . . . . .	22.0	22.0	16.5	16.2	19.3	19.1
MM097	Nonautomotive insulated electrical wire and related products:						
	Number of establishments . . . . .	525	520	500	490	475	-3.1
	Employees (thousands) . . . . .	91.0	90.0	85.0	83.0	79.0	-4.8
	Capacity utilization (percent) . . . . .	80	78	73	71	69	-2.8
	U.S. shipments (million dollars) . . . . .	16,750	17,500	15,000	13,380	12,850	-4.0
	U.S. exports (million dollars) . . . . .	3,102	4,040	3,286	2,856	2,660	-6.9
	U.S. imports (million dollars) . . . . .	3,078	3,566	3,203	3,076	3,208	4.3
	Apparent U.S. consumption (million dollars) . . . . .	16,726	17,026	14,917	13,600	13,398	-1.5
	Trade balance (million dollars) . . . . .	24	474	83	-220	-548	-149.0
	Ratio of imports to consumption (percent) . . . . .	18.4	20.9	21.5	22.6	23.9	5.8
	Ratio of exports to shipments (percent) . . . . .	18.5	23.1	21.9	21.3	20.7	-2.8

See footnote(s) at end of table.

Table MT-5—Continued

Machinery sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 1999-2003

USITC code	Industry/commodity group	1999	2000	2001	2002	2003	Percent change, 2003 from 2002
MM099	Molds and molding machinery:						
	Number of establishments . . . . .	120	120	120	120	115	-4.2
	Employees (thousands) . . . . .	8.0	8.0	8.0	8.0	8.0	0.0
	Capacity utilization (percent) . . . . .	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	U.S. shipments (million dollars) . . . . .	5,233	5,929	5,001	4,486	4,396	-2.0
	U.S. exports (million dollars) . . . . .	1,879	2,129	1,791	1,605	1,550	-3.4
	U.S. imports (million dollars) . . . . .	3,723	3,613	2,803	2,969	3,262	9.9
	Apparent U.S. consumption (million dollars) . . . . .	7,077	7,413	6,013	5,849	6,108	4.4
	Trade balance (million dollars) . . . . .	-1,844	-1,484	-1,012	-1,363	-1,712	-25.6
	Ratio of imports to consumption (percent) . . . . .	52.6	48.7	46.6	50.8	53.4	5.1
	Ratio of exports to shipments (percent) . . . . .	35.9	35.9	35.8	35.8	35.3	-1.4

<sup>1</sup>Not available.

<sup>2</sup>Less than 0.05 percent.

<sup>3</sup>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.