

# Minerals and Metals<sup>1</sup>

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## *Change in 2006 from 2005:*

**U.S. trade deficit: Increased by \$12.1 billion (16 percent) to \$86.6 billion**

**U.S. exports: Increased by \$20.0 billion (32 percent) to \$82.9 billion**

**U.S. imports: Increased by \$32.1 billion (23 percent) to \$169.5 billion**

The rising costs of global energy and raw materials exerted strong upward pressure on global prices for minerals and metals in 2006. These price effects were largely responsible for the significant increases in both U.S. imports and exports in this sector (table MM-1). Strong economic growth in the United States as well as in most of the key U.S. trading partners in 2006 further contributed to the higher global demand and prices for sector products.<sup>2</sup>

Among U.S. key trading partners, China, in particular, continued its robust economic growth, expanding by 11 percent in 2006.<sup>3</sup> Much of this growth was in infrastructure development and industrial fixed assets, which require the extensive utilization of metal equipment and structures. Prior domestic supply shortage of many major commodities<sup>4</sup> has compelled China to rely on imports to satisfy demand, contributing to global price increases for many basic sector products.<sup>5</sup> Certain other countries in Asia were also key export markets for U.S. products owing to the rapid growth of these economies.

Overall, Canada and Mexico have traditionally been the leading U.S. trading partners in the minerals and metals sector, owing largely to NAFTA tariff preferences and market proximity. However, because of the strong demand from the rapidly expanding Chinese economy and China's emergence as a leading global supplier, China has replaced Mexico as the second-largest trading partner for the United States behind only Canada (table MM-1). In this sector, China's trade surplus with the United States, at \$3.4 billion, was the largest of any single country in 2006.

Steel mill products were an important category in the minerals and metals sector, accounting for a trade deficit of over \$21 billion in 2006. In the carbon and alloy steel plate, sheet, and

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<sup>1</sup> Steel mill products, copper and related articles, precious metals and non-numismatic coins, unwrought aluminum, and certain base metals and chemical elements are leading groups in terms of absolute trade changes in the minerals and metals sector and are discussed separately in this chapter.

<sup>2</sup> In 2006, the global economy grew by 5.1 percent, the second strongest growth in a quarter of a century. Mandel and Henry, "It's a Low, Low, Low-rate World."

<sup>3</sup> Chinese National Bureau of Statistics, *GDP Growth 1952-2006*. In 2004 and 2005, the Chinese economy grew by 10.1 percent and 9.9 percent, respectively.

<sup>4</sup> These commodities included steel, copper, zinc, aluminum, and precious metals.

<sup>5</sup> Pui, "The Mineral Industry of China," 2.

**TABLE MM-1** Minerals and metals: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 2002–06<sup>a</sup>

Item	2002	2003	2004	2005	2006	Change, 2006 from 2005	
						Absolute	Percent
	<i>Million dollars</i>						
U.S. exports of domestic merchandise:							
Canada	13,447	13,820	16,835	19,110	22,687	3,577	18.7
China	1,539	2,636	3,197	5,215	7,736	2,521	48.3
Mexico	6,671	6,454	7,958	9,258	11,635	2,377	25.7
Israel	677	231	457	1,359	2,026	666	49.0
United Kingdom	2,622	3,112	2,788	3,429	6,587	3,158	92.1
Germany	1,196	1,338	1,513	1,848	2,569	721	39.0
Japan	1,590	1,654	1,955	2,385	3,221	836	35.1
Russia	62	71	90	91	136	45	49.2
Taiwan	647	758	914	1,092	1,491	400	36.6
India	206	235	388	719	902	183	25.4
All other	11,266	12,669	14,493	18,405	23,954	5,549	30.1
Total	39,924	42,980	50,588	62,911	82,944	20,033	31.8
EU-15	6,951	7,589	7,876	10,748	16,099	5,351	49.8
EU-25	7,061	7,733	8,053	10,998	16,363	5,365	48.8
OPEC	754	687	997	1,557	1,860	303	19.5
Latin America	8,394	8,233	10,073	11,745	14,716	2,971	25.3
CBERA	749	846	910	1,035	1,259	224	21.7
Asia	6,622	8,346	10,285	13,447	18,380	4,932	36.7
Sub-Saharan Africa	265	269	344	405	655	251	61.9
Central and Eastern Europe	121	115	205	278	278	( <sup>b</sup> )	( <sup>c</sup> )
U.S. imports of merchandise for consumption:							
Canada	17,797	18,003	22,636	25,590	32,155	6,565	25.7
China	8,656	10,054	13,890	17,553	23,462	5,909	33.7
Mexico	7,013	7,116	9,623	11,366	13,266	1,900	16.7
Israel	6,073	6,365	7,527	8,543	9,069	526	6.2
United Kingdom	2,174	2,190	2,942	3,093	3,748	655	21.2
Germany	3,438	3,654	4,637	5,495	6,611	1,116	20.3
Japan	4,123	4,036	4,724	5,013	5,871	858	17.1
Russia	2,505	2,407	4,679	4,687	6,915	2,227	47.5
Taiwan	3,003	3,058	4,190	4,282	5,243	960	22.4
India	3,799	3,730	4,748	5,091	5,816	725	14.2
All other	27,036	28,591	41,301	46,653	57,354	10,701	22.9
Total	85,616	89,204	120,897	137,367	169,510	32,143	23.4
EU-15	15,589	16,239	20,834	23,200	26,382	3,182	13.7
EU-25	16,225	16,802	21,688	24,181	27,437	3,256	13.5
OPEC	1,311	1,282	1,846	1,978	2,015	37	1.9
Latin America	13,261	14,277	21,239	25,402	30,991	5,589	22.0
CBERA	657	689	1,008	930	1,278	348	37.4
Asia	23,501	24,657	32,610	37,898	47,885	9,988	26.4
Sub-Saharan Africa	2,705	2,995	4,344	4,565	5,961	1,395	30.6
Central and Eastern Europe	780	729	1,233	1,306	1,454	149	11.4

See footnote(s) at end of table.

**TABLE MM-1** Minerals and metals: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 2002–06<sup>a</sup>—Continued

Item	2002	2003	2004	2005	2006	Change, 2006 from 2005	
						Absolute	Percent
<i>Million dollars</i>							
U.S. merchandise trade balance:							
Canada	-4,350	-4,183	-5,801	-6,480	-9,468	-2,988	-46.1
China	-7,117	-7,418	-10,692	-12,339	-15,726	-3,388	-27.5
Mexico	-342	-661	-1,665	-2,108	-1,631	478	22.6
Israel	-5,396	-6,134	-7,070	-7,184	-7,043	141	2.0
United Kingdom	448	922	-153	335	2,839	2,503	746.5
Germany	-2,242	-2,317	-3,124	-3,646	-4,041	-395	-10.8
Japan	-2,534	-2,382	-2,770	-2,628	-2,650	-22	-0.8
Russia	-2,443	-2,336	-4,589	-4,596	-6,779	-2,183	-47.5
Taiwan	-2,356	-2,300	-3,276	-3,191	-3,752	-561	-17.6
India	-3,592	-3,494	-4,360	-4,372	-4,915	-543	-12.4
All other	-15,770	-15,922	-26,808	-28,248	-33,400	-5,152	-18.2
Total	-45,692	-46,224	-70,309	-74,456	-86,567	-12,110	-16.3
EU-15	-8,637	-8,650	-12,958	-12,453	-10,283	2,169	17.4
EU-25	-9,164	-9,068	-13,635	-13,183	-11,073	2,109	16.0
OPEC	-558	-596	-848	-420	-154	266	63.3
Latin America	-4,866	-6,044	-11,166	-13,657	-16,274	-2,618	-19.2
CBERA	92	157	-98	104	-19	-123	( <sup>d</sup> )
Asia	-16,879	-16,311	-22,325	-24,451	-29,506	-5,055	-20.7
Sub-Saharan Africa	-2,440	-2,727	-4,000	-4,161	-5,306	-1,145	-27.5
Central and Eastern Europe	-660	-614	-1,029	-1,028	-1,176	-149	-14.5

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

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 2006.

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

<sup>b</sup>Less than \$500,000.

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

<sup>d</sup>Not meaningful for purposes of comparison.

strip category, the trade deficit increased by nearly 120 percent (\$3.5 billion). The increase in imports of these products can be attributed to a rise in steel prices as well as strong demand in the domestic construction, automotive, and energy and petrochemical industries. Also in 2006, rising prices for oil and natural gas spawned increased exploration activities, creating stronger global demand for exploration equipment, including carbon and alloy steel pipe and tubes, which constitute an important part of the steel mill products group. During the 2005–06 period, the average Baker Hughes rig counts<sup>6</sup> in the world and in the United States increased by 11 percent and 19 percent, respectively. The value of U.S. imports of carbon and alloy steel pipes and tubes increased by over 32 percent in 2006, resulting in a trade deficit of \$1.3 billion, an increase of 37 percent.

Driven by higher prices owing to China’s robust industrial growth as well as improving global economic conditions, the value of both exports and imports of copper and related articles (table MM-2) increased significantly in 2006, resulting in a 78 percent rise in the trade deficit for these goods, to \$7.8 billion. In particular, the increase in the value of copper trade can be attributed to the 80 percent price increase for copper, copper-related articles, and copper scrap during the 2005–06 period. Unwrought aluminum accounted for over \$6.8 billion of the sectoral trade deficit in 2006. As previously stated, China’s increasing demand for raw materials (including aluminum) in support of its rapidly growing economy contributed to a strong rise in overall global demand, resulting in higher prices for aluminum. Increased prices played an important role in the rise of the U.S. trade deficit in unwrought aluminum.

With respect to precious metals and non-numismatic coins, increases in U.S. trade values were also primarily attributable to higher price levels and stronger demand stemming from strong global economic conditions. The U.S. trade deficit in these products declined by 65 percent to \$872 million.

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<sup>6</sup> The Baker Hughes rig count is a general indicator of drilling activities published by Baker Hughes Incorporated Oil Field Service, a U.S. leading provider of drilling, formation evaluation, completion and production products and services to the worldwide oil and gas industry. Baker Hughes Incorporated Oil Field Service website.

**TABLE MM-2** Leading changes in U.S. exports and imports of minerals and metals, 2002–06<sup>a</sup>

Industry/commodity group	2002	2003	2004	2005	2006	Change, 2006 from 2005	
						Absolute	Percent
<i>Million dollars</i>							
<b>U.S. EXPORTS:</b>							
<b>Increases:</b>							
Precious metals and non-numismatic coins (MM020) . . . . .	5,070	6,299	6,204	7,522	13,360	5,839	77.6
Copper and related articles (MM036) . . . . .	1,744	2,086	3,006	3,405	6,052	2,647	77.7
Unwrought aluminum (MM037) . . . . .	950	1,000	1,397	2,087	3,508	1,421	68.1
Natural and synthetic gemstones (MM019) . . . . .	1,331	469	1,129	2,765	4,087	1,321	47.8
Steel mill products (MM025) . . . . .	4,533	5,525	7,015	9,331	10,479	1,148	12.3
<b>All other</b> . . . . .	26,295	27,601	31,837	37,801	45,457	7,656	20.3
<b>TOTAL</b> . . . . .	39,924	42,980	50,588	62,911	82,944	20,033	31.8
<b>U.S. IMPORTS:</b>							
<b>Increases:</b>							
Steel mill products (MM025) . . . . .	12,203	10,499	21,559	23,534	31,500	7,966	33.8
Copper and related articles (MM036) . . . . .	3,715	3,893	5,565	7,766	13,803	6,037	77.7
Precious metals and non-numismatic coins (MM020) . . . . .	6,263	6,759	9,055	10,029	14,232	4,203	41.9
Certain base metals and chemical elements (MM041) . . . . .	1,952	2,248	3,825	4,417	5,924	1,507	34.1
Zinc and related articles (MM040) . . . . .	908	845	1,135	1,139	2,524	1,385	121.6
<b>All other</b> . . . . .	60,574	64,962	79,758	90,483	101,529	11,046	12.2
<b>TOTAL</b> . . . . .	85,616	89,204	120,897	137,367	169,510	32,143	23.4

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

Note.—Calculations based on unrounded data.

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

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## Precious Metals and Non-numismatic Coins<sup>7</sup>

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*Change in 2006 from 2005:*

**U.S. trade deficit: Decreased by \$1.6 billion (65 percent) to \$872 million**

**U.S. exports: Increased by \$5.8 billion (78 percent) to \$13.4 billion**

**U.S. imports: Increased by \$4.2 billion (42 percent) to \$14.2 billion**

The U.S. trade deficit in precious metals and non-numismatic coins narrowed in 2006, as the United States exported more of several key products—particularly nonmonetary gold (\$1.6 billion net export gain) and waste and scrap (\$824 million net export gain), which together overshadowed the declining trend for platinum-group metals (\$824 million net import gain). Sharply higher precious metals prices in 2006 enhanced the values of U.S. trade flows above increased quantities (table MM-3). For example, the export value of gold bullion and doré<sup>8</sup> increased by 54 percent in 2006, whereas the quantity exported increased by only 20 percent (table MM-4). Likewise, the import value of unwrought rhodium increased by 115 percent, but the quantity imported increased by only 8 percent. Global precious metals prices have been rising since 2002–03, reflecting heightened investment and speculative interests as well as sustained fabrication demand.<sup>9</sup> Compared with 2005 prices, average annual prices in 2006 for gold rose by 36 percent, silver by 58 percent, platinum by 27 percent, and palladium by 59 percent, whereas prices for certain other precious metals more than doubled.

### *U.S. Exports*

The overall increase in U.S. exports of precious metals and non-numismatic coins in 2006 is primarily attributable to increased exports of nonmonetary gold, which accounted for 44 percent of the overall shift. Nearly all (96 percent) of the increase in gold exports were of refined bullion and unrefined doré, which together increased by \$2.6 billion (54 percent) to \$7.4 billion in 2006 (table MM-4). Mine output rose in 2006 to propel the United States to become the world's second largest producer.<sup>10</sup> In addition to increased mine-smelter production of doré, both primary (from doré) and secondary (from scrap) production of

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<sup>7</sup> This industry/commodity group includes gold, silver, and platinum-group metals (platinum, palladium, rhodium, iridium, ruthenium, and osmium) in unwrought or semi-manufactured forms; precious metal waste and scrap; and precious-metal non-numismatic coins. Monetary gold held as official reserves by central banks is specifically excluded from this group.

<sup>8</sup> Doré gold, containing silver and various base metals, is produced from the smelting of gold-bearing ores and concentrates.

<sup>9</sup> See e.g., Klapwijk, "Palladium Jewellery Fabrication Forecast to Rise in 2006"; Lerner, "After Sixteen Years of Down and Out"; Lerner, "Gold Funds' Demand Expected to Strengthen"; Lerner, "Investor Buying Could Drive Silver to \$15/oz"; Lerner, "PGMs Grow on Fabrication, Investment: CPM"; *Metal Bulletin*, "Gold Rising on Geopolitical Tensions—Greenspan"; *Metal Bulletin*, "Platinum Hits Fresh High on Weak Yen, Haven Buying"; and Stundza, "Gold Bugs Remain Bullish on Price"; among others.

<sup>10</sup> In 2006, U.S. mined gold output increased by 4 metric tons (1.6 percent) over the previous year's level to reach 260 metric tons, or 10 percent of the world's output (2,500 metric tons) in that year. George, "Gold," 71.

**Table MM-3** Average annual precious-metals prices, 2002–06  
Dollars per troy ounce

Year	Platinum-group metals							
	Gold <sup>a</sup>	Silver <sup>b</sup>	Platinum <sup>c</sup>	Palladium <sup>c</sup>	Rhodium <sup>c</sup>	Iridium <sup>c</sup>	Osmium <sup>c</sup>	Ruthenium <sup>c</sup>
Change in 2006 from 2005:								
Absolute . . . . .	\$159.32	\$4.24	\$244.91	\$119.39	\$2,501.33	\$179.94	( <sup>d</sup> )	\$118.68
Percent . . . . .	35.8	58.0	27.2	58.7	121.4	106.2	( <sup>d</sup> )	159.5
2006 . . . . .	603.77	11.55	1,144.42	322.93	4,561.06	349.45	( <sup>e</sup> )	193.09
2005 . . . . .	444.45	7.31	899.51	203.54	2,059.73	169.51	( <sup>e</sup> )	74.41
2004 . . . . .	409.17	6.65	848.76	232.93	983.24	185.33	( <sup>e</sup> )	64.22
2003 . . . . .	363.32	4.88	694.44	203.00	530.28	93.02	( <sup>e</sup> )	35.43
2002 . . . . .	309.68	4.60	542.56	339.68	838.88	294.62	( <sup>e</sup> )	66.33

Source: Statistics of the London Bullion Market Association; and compiled by the U.S. Geological Survey from statistics of *Platts Metals Week*.

<sup>a</sup>London Final price.

<sup>b</sup>London daily (noon) price.

<sup>c</sup>Englehard Industries price.

<sup>d</sup>Not applicable.

<sup>e</sup>Not reported.

**Table MM-4** Changes in U.S. exports of precious metals and non-numismatic coins, 2002–06

Item	2002	2003	2004	2005	2006	Change, 2006 from 2005	
						Absolute	Percent
<i>million dollars</i>							
Gold . . . . .	2,820	4,248	3,591	4,834	7,429	2,594	53.7
Waste and scrap . . . . .	1,226	1,360	1,763	1,749	3,065	1,316	75.2
Platinum-group metals . . . . .	722	481	542	610	1,739	1,129	185.1
Silver . . . . .	265	177	271	286	1,011	725	253.5
Non-numismatic coins . . . . .	37	33	38	42	116	74	176.2
Total . . . . .	5,070	6,299	6,204	7,522	13,360	5,839	77.6

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

Note.—Calculations based on unrounded data.

bullion by domestic refineries also increased in 2006.<sup>11</sup> The leading U.S. market for bullion, which also registered the largest increased U.S. shipments, was the United Kingdom (up by \$1.9 billion, or 212 percent, to \$2.8 billion), a major precious metals fabricating country and host to the world's premiere precious-metals trading center, London, where global reference prices are set for gold (table MM-5).<sup>12</sup> Switzerland, also a major center for precious-metals fabrication and trading, was the principal market for doré and registered the largest increased U.S. shipments (up by \$676 million, or 34 percent, to \$2.7 billion).

<sup>11</sup> In 2006, U.S. refinery output of primary gold rose by 17 metric tons (9 percent) over the previous year's level to reach 180 metric tons. Similarly, refinery output of secondary gold rose 4 metric tons (5 percent) to reach 80 metric tons. George, "Gold," 70.

<sup>12</sup> The London Bullion Market Association Web site.

**TABLE MM-5** Precious metals and non-numismatic coins (MM020): U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 2002–06<sup>a</sup>

Item	2002	2003	2004	2005	2006	Change, 2006 from 2005	
						Absolute	Percent
<i>Million dollars</i>							
U.S. exports of domestic merchandise:							
United Kingdom	1,299	1,706	1,179	1,567	4,403	2,836	181.0
Switzerland	1,979	2,827	2,401	2,894	4,205	1,311	45.3
Canada	568	658	1,131	802	1,563	761	94.9
South Africa	2	9	2	16	2	-15	-90.6
Mexico	212	152	176	133	237	104	78.2
Peru	54	24	3	4	3	-1	-17.5
Germany	176	193	217	359	685	327	91.1
Russia	<sup>(b)</sup>	1	<sup>(b)</sup>	<sup>(b)</sup>	<sup>(b)</sup>	<sup>(2)</sup>	254.7
Japan	161	161	204	333	504	171	51.3
Chile	2	2	5	8	8	-1	-11.2
All other	618	565	887	1,406	1,750	344	24.5
Total	5,070	6,299	6,204	7,522	13,360	5,839	77.6
EU-15	1,753	2,084	1,578	2,197	5,580	3,383	154.0
EU-25	1,754	2,085	1,580	2,198	5,581	3,383	154.0
OPEC	50	40	133	347	235	-112	-32.3
Latin America	346	264	300	227	350	123	54.3
CBERA	48	58	53	40	43	3	8.4
Asia	333	354	531	969	1,216	248	25.6
Sub-Saharan Africa	2	9	7	17	2	-15	-89.9
Central and Eastern Europe	1	1	2	1	1	<sup>(b)</sup>	55.8
U.S. imports of merchandise for consumption:							
United Kingdom	510	459	690	917	1,284	367	40.0
Switzerland	88	114	144	83	233	150	180.5
Canada	1,990	1,778	2,080	1,960	2,660	699	35.7
South Africa	1,186	1,314	1,764	1,845	2,711	866	47.0
Mexico	448	530	732	927	2,023	1,097	118.3
Peru	163	431	1,195	1,739	1,635	-104	-6.0
Germany	240	222	212	285	575	290	101.5
Russia	509	456	476	565	699	134	23.7
Japan	53	51	80	68	138	70	101.6
Chile	63	86	146	259	424	165	63.9
All other	1,013	1,316	1,536	1,380	1,849	469	34.0
Total	6,263	6,759	9,055	10,029	14,232	4,203	41.9
EU-15	1,037	885	1,160	1,426	2,358	932	65.4
EU-25	1,042	895	1,175	1,439	2,390	951	66.1
OPEC	3	45	42	18	13	-5	-27.9
Latin America	1,196	1,954	3,058	3,726	5,052	1,326	35.6
CBERA	163	198	254	255	407	152	59.5
Asia	138	134	182	203	298	95	46.9
Sub-Saharan Africa	1,195	1,315	1,766	1,851	2,715	864	46.7
Central and Eastern Europe	5	10	16	13	12	-1	-4.3

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See footnote(s) at end of table.

**TABLE MM-5** Precious metals and non-numismatic coins (MM020): U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 2002–06<sup>a</sup>—*Continued*

Item	2002	2003	2004	2005	2006	Change, 2006 from 2005		
						Absolute	Percent	
	<i>Million dollars</i>							
U.S. merchandise trade balance:								
United Kingdom . . . . .	788	1,247	489	650	3,120	2,469	379.8	
Switzerland . . . . .	1,891	2,712	2,256	2,810	3,971	1,161	41.3	
Canada . . . . .	-1,423	-1,120	-948	-1,158	-1,096	62	5.3	
South Africa . . . . .	-1,185	-1,304	-1,762	-1,829	-2,710	-881	-48.2	
Mexico . . . . .	-236	-378	-556	-794	-1,787	-993	-125.1	
Peru . . . . .	-109	-407	-1,192	-1,736	-1,632	103	6.0	
Germany . . . . .	-64	-29	5	73	110	37	50.4	
Russia . . . . .	-509	-455	-476	-565	-699	-134	-23.7	
Japan . . . . .	108	110	124	265	366	101	38.3	
Chile . . . . .	-61	-85	-141	-250	-417	-166	-66.4	
All other . . . . .	-394	-751	-649	26	-99	-125	( <sup>c</sup> )	
Total . . . . .	-1,193	-460	-2,851	-2,507	-872	1,635	65.2	
EU-15 . . . . .	716	1,199	418	771	3,222	2,451	317.7	
EU-25 . . . . .	712	1,190	404	759	3,191	2,432	320.6	
OPEC . . . . .	47	-6	90	329	222	-107	-32.5	
Latin America . . . . .	-849	-1,690	-2,758	-3,500	-4,702	-1,203	-34.4	
CBERA . . . . .	-115	-140	-202	-215	-364	-149	-69.1	
Asia . . . . .	195	220	349	765	918	152	19.9	
Sub-Saharan Africa . . . . .	-1,193	-1,306	-1,759	-1,834	-2,713	-879	-47.9	
Central and Eastern Europe . . . . .	-4	-9	-14	-12	-11	1	7.5	

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

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 2006.

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

<sup>b</sup>Less than \$500,000.

<sup>c</sup>Not meaningful for purposes of comparison.

Increased exports of precious metals waste and scrap accounted for another 23 percent of the overall export increase of precious metals and non-numismatic coins in 2006. The United States is among the world's largest generators and exporters of waste and scrap of all precious metals due to the size of the national economy and the high recycling rate for precious metals. Gold and silver accounted for 46 percent and 43 percent, respectively, of the overall export increase. Gold waste and scrap exports rose by \$601 million (90 percent) to \$1.3 billion, primarily to Canada, followed by Germany.<sup>13</sup> Silver waste and scrap exports rose by \$560 million (97 percent) to \$1.1 billion, primarily to Germany, followed by Italy and Canada. These markets, much like the United States, are locations for precious metals recovery and refining, with extensive global trade links among precious metal refineries and fabricators.

### ***U.S. Imports***

The overall increase in U.S. imports of precious metals and non-numismatic coins in 2006 is primarily attributable to increased imports of platinum-group metals (PGMs), which accounted for 46 percent of the overall shift (table MM-6). Most of the increase in PGM imports was of unwrought forms, attributable to continued robust demand for PGM catalysts in emissions control, petroleum refining, and chemical synthesis applications. The largest increase was for imports of unwrought rhodium, which rose by \$932 million (115 percent) to \$1.7 billion, followed by unwrought platinum, which rose by \$359 million (18 percent) to \$2.4 billion. With only two producing mines, the United States is highly dependent upon foreign sources to meet its domestic consumption needs.<sup>14</sup> South Africa, the world's leading mine producer of PGMs,<sup>15</sup> continued as the top U.S. source in 2006 for both rhodium (up by \$441 million, or 93 percent to \$914 million) and platinum (up by \$198 million, or 17 percent to \$1.3 billion) in unwrought forms.

Increased imports of nonmonetary gold accounted for another 23 percent of the overall import increase in 2006 of precious metals and non-numismatic coins. Nearly all (99 percent) of the increased gold imports was bullion and doré, which together increased by \$961 million (27 percent) to \$4.5 billion in 2006. Gold bullion imports from all sources increased by \$1.0 billion (68 percent) to \$2.5 billion. The predominant foreign sources exhibiting the largest increases were NAFTA partners Mexico and Canada. By contrast,

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<sup>13</sup> Germany is the largest recoverer of both precious and base metals in the European Union, with a highly developed secondary recovery (recycling) industry that benefitted from advances in recovery technologies and new capacity additions, but is highly dependent upon imports of nonferrous metal waste and scrap. Anderson, "The Mineral Industry of Germany," 12.4–12.5.

<sup>14</sup> U.S. net import reliance as a share of apparent consumption was 95 percent in 2006. George, "Platinum-Group Metals," 122.

<sup>15</sup> South Africa, the world's largest platinum producer, accounted for 172 metric tons, or 77 percent of the world's output (223 metric tons). As the world's second largest palladium producer, South Africa accounted for 87 metric tons, or 39 percent of the world's output (222 metric tons) in 2006. George, "Platinum-Group Metals," 123.

**Table MM-6** Changes in U.S. imports of precious metals and non-numismatic coins, 2002–06

Item	2002	2003	2004	2005	2006	Change, 2006 from 2005	
						Absolute	Percent
<i>Million dollars</i>							
Platinum-group metals . . . . .	2,825	2,623	3,505	3,885	5,838	1,953	50.3
Gold . . . . .	2,352	2,797	3,827	4,202	5,171	969	23.1
Silver . . . . .	687	801	1,013	1,178	1,900	722	61.3
Waste and scrap . . . . .	256	331	466	525	1,017	492	93.7
Non-numismatic coins . . . . .	143	207	244	237	305	68	28.7
Total . . . . .	6,263	6,759	9,055	10,029	14,232	4,203	41.9

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

Note.—Calculations based on unrounded data.

doré imports from all sources declined by \$70 million (3 percent) to \$2.0 billion, with the largest declines among doré sources being Colombia and Peru, and the largest increase being Chile. All three mine gold from gold ores or as a co- or byproduct of copper mining.<sup>16</sup>

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<sup>16</sup> Anderson, “The Mineral Industry of Chile,” 7.0 and 7.16–7.17; Torres, “The Mineral Industry of Colombia,” 8.2 and 8.8; and Gurmendi, “The Mineral Industry of Peru,” 15.5 and 15.13.

## Steel Mill Products

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*Change in 2006 from 2005:*

**U.S. trade deficit: Increased by \$6.8 billion (48 percent) to \$21.0 billion**

**U.S. exports: Increased by \$1.1 billion (12 percent) to \$10.5 billion**

**U.S. imports: Increased by \$8.0 billion (34 percent) to \$31.5 billion**

Both U.S. imports and exports of steel mill products increased in 2006; however, the increase in imports greatly overshadowed the increase in exports, resulting in a 48-percent increase in the trade deficit to \$6.8 billion in 2006. The average unit value of imported steel mill products declined by 5 percent from the previous year, whereas the quantity of imports increased by 41 percent. In addition to the rise in imports of \$8.0 billion (34 percent), an increase in U.S. production contributed to growth in the domestic supply of steel mill products; however, much of the increased supply contributed to inventory increases held by service centers and end users in 2006. This was the opposite of the situation in 2005, when the quantities of steel mill products imported and in inventories both fell.

### *U.S. Exports*

The growth in U.S. exports of steel mill products was the result of a 19-percent increase in the quantity of exports and an 11-percent increase in average unit value. Carbon and alloy steel pipe and tube exports accounted for the largest share (38 percent) of the year-to-year increase in overall sector exports (Table MM-7). The increase in exports of pipe and tube was due to high demand for products used in petroleum and natural-gas production, particularly for seamless pipe and for products used in oil and gas wells. Canada was the largest country of destination, accounting for \$169 million (38 percent) of the growth in pipe and tube exports; China accounted for \$27 million (6 percent) in increased exports (table MM-8). Over the period 2002–06, exports of pipe and tube to China increased by almost 900 percent (to \$138 million), and China became the third-largest country destination, after Canada (\$1.1 billion) and Mexico (\$195 million), for U.S. pipe and tube exports. The value of U.S. exports of bar, rod, and shape products, which were primarily sent to Canada and Mexico, increased because of higher prices in 2006.

### *U.S. Imports*

U.S. demand for steel mill products was strong during the early months of 2006, but U.S. producers, already at a high operating rate, were reportedly unable to sufficiently increase the supply of domestic steel to meet that demand.<sup>17</sup> Delays in the restart of a major producing unit, unplanned outages at several major steel producers, a labor dispute at a major mill, and extended lead times for delivery of orders from domestic mills added to market perceptions of domestic supply tightness, allowing U.S. prices to remain firm.<sup>18</sup> When U.S. demand faltered later in the year, domestic mills responded by cutting back on

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<sup>17</sup> CRU Monitor, *Steel: Finished Products, Semis and Raw Materials*, 6.

<sup>18</sup> *Ibid.*

**TABLE MM-7 Changes in U.S. exports of steel mill products, 2002–06**

Item	2002	2003	2004	2005	2006	Change, 2006 from 2005	
						Absolute	Percent
<i>Million dollars</i>							
Carbon and alloy steel pipe and tube .....	1,016	977	1,360	1,904	2,347	443	23
Carbon and alloy steel bar, rod, and light shapes .....	415	479	697	837	999	162	19
Carbon and alloy steel angle, shapes and sections .....	154	217	372	467	603	135	29
All other steel mill products .....	2,948	3,852	4,486	6,123	6,530	407	7
Total .....	4,533	5,525	7,015	9,331	10,479	1,148	12

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

Note.—Calculations based on unrounded data.

production; however, imported steel continued to arrive at a high rate through the end of the year, contributing to a growth in inventory in the hands of service centers and end users. Imports of carbon and alloy steel plate, sheet, and strip accounted for about 45 percent of the increase in imports in this sector (Table MM-9). Such products account for over 60 percent of all U.S. steel mill product demand and are utilized by all major steel-consuming sectors, including construction, automotive, and equipment. They are also consumed to produce pipe and tube products for use in construction and in oil, gas, and petrochemical production, which has become a strong growth area given the rise in fuel prices. The largest increases in imports were from China (\$647 million), India (\$363 million), Korea (\$404 million), Russia (\$368 million), and Taiwan (\$405 million). Increases in steel production in China exceeded growth in Chinese domestic consumption in 2006, and China became a major exporter of steel products, reversing its status as a major importer only 2 years earlier.

Imports of carbon and alloy steel pipe and tube accounted for 21 percent of the growth in imports of steel mill products. Imports from China accounted for about 46 percent of the total increase. This increase in U.S. imports from China was due to growing U.S. demand as well as increased Chinese supply of these products, particularly seamless pipe and seamless oil country tubular goods. New seamless pipe producing mills have come on line in China, resulting in capacity that exceeds local demand.



**TABLE MM-8** Steel mill products (MM025): U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 2002–06<sup>a</sup>

Item	2002	2003	2004	2005	2006	Change, 2006 from 2005	
						Absolute	Percent
<i>Million dollars</i>							
U.S. exports of domestic merchandise:							
Canada	2,267	2,567	3,887	5,009	5,600	591	11.8
Mexico	1,085	1,120	1,338	1,690	1,998	308	18.2
China	52	429	228	402	321	-81	-20.2
Japan	33	34	39	79	63	-16	-20.1
Korea	24	46	73	94	104	10	10.2
Russia	9	8	13	13	21	8	59.2
Brazil	33	28	47	61	75	14	22.4
Germany	68	88	107	176	168	-8	-4.7
Taiwan	32	60	67	77	68	-9	-11.6
Turkey	10	13	8	19	26	7	38.6
All other	919	1,130	1,209	1,711	2,037	325	19.0
<b>Total</b>	<b>4,533</b>	<b>5,525</b>	<b>7,015</b>	<b>9,331</b>	<b>10,479</b>	<b>1,148</b>	<b>12.3</b>
EU-15	389	554	475	708	810	102	14.3
EU-25	394	603	507	749	838	89	11.8
OPEC	149	105	168	259	324	65	25.2
Latin America	1,326	1,317	1,637	2,124	2,500	375	17.7
CBERA	107	87	120	124	168	44	35.4
Asia	300	805	721	1,014	909	-105	-10.4
Sub-Saharan Africa	58	72	65	106	202	96	90.6
Central and Eastern Europe	7	13	18	40	33	-7	-17.7
U.S. imports of merchandise for consumption:							
Canada	2,784	2,693	3,700	4,334	4,702	368	8.5
Mexico	1,232	1,224	2,410	2,600	2,437	-163	-6.3
China	264	269	1,104	1,687	3,605	1,918	113.7
Japan	940	744	1,015	1,392	1,886	494	35.5
Korea	638	475	957	1,285	1,813	528	41.1
Russia	363	134	1,195	860	1,763	903	105.0
Brazil	779	573	1,382	1,374	1,629	255	18.6
Germany	773	686	1,074	1,384	1,428	44	3.2
Taiwan	249	185	754	673	1,511	838	124.5
Turkey	316	282	990	623	1,047	425	68.2
All other	3,866	3,235	6,978	7,323	9,678	2,355	32.2
<b>Total</b>	<b>12,203</b>	<b>10,499</b>	<b>21,559</b>	<b>23,534</b>	<b>31,500</b>	<b>7,966</b>	<b>33.8</b>
EU-15	2,817	2,439	4,424	5,523	6,170	646	11.7
EU-25	3,003	2,602	4,730	5,792	6,524	732	12.6
OPEC	186	121	296	281	194	-87	-30.9
Latin America	2,456	2,167	4,499	4,619	4,566	-53	-1.1
CBERA	140	78	187	83	114	32	38.4
Asia	2,603	2,030	4,884	5,983	10,410	4,428	74.0
Sub-Saharan Africa	146	133	244	222	344	122	54.7
Central and Eastern Europe	284	252	554	435	590	155	35.5

**TABLE MM-8** Steel mill products (MM025): U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 2002–06<sup>a</sup>—*continued*

Item	2002	2003	2004	2005	2006	Change, 2006 from 2005	
						Absolute	Percent
<i>Million dollars</i>							
U.S. merchandise trade balance:							
Canada	-516	-125	187	675	898	222	32.9
Mexico	-147	-103	-1,072	-910	-440	471	51.7
China	-212	160	-876	-1,284	-3,284	-1,999	-155.7
Japan	-907	-710	-975	-1,313	-1,823	-510	-38.8
Korea	-614	-429	-885	-1,191	-1,709	-518	-43.5
Russia	-353	-125	-1,182	-847	-1,743	-896	-105.7
Brazil	-746	-545	-1,335	-1,313	-1,554	-241	-18.4
Germany	-705	-597	-968	-1,208	-1,261	-52	-4.3
Taiwan	-217	-125	-687	-596	-1,443	-847	-142.1
Turkey	-305	-269	-982	-604	-1,022	-418	-69.1
All other	-2,947	-2,105	-5,768	-5,612	-7,641	-2,029	-36.2
<b>Total</b>	<b>-7,670</b>	<b>-4,974</b>	<b>-14,544</b>	<b>-14,203</b>	<b>-21,020</b>	<b>-6,818</b>	<b>-48.0</b>
EU-15	-2,428	-1,885	-3,950	-4,815	-5,360	-545	-11.3
EU-25	-2,609	-1,999	-4,223	-5,042	-5,686	-644	-12.8
OPEC	-37	-17	-128	-22	130	152	<sup>(b)</sup>
Latin America	-1,130	-850	-2,862	-2,495	-2,066	428	17.2
CBERA	-33	9	-67	41	54	12	29.6
Asia	-2,304	-1,225	-4,163	-4,968	-9,501	-4,533	-91.2
Sub-Saharan Africa	-88	-61	-179	-116	-142	-25	-22.0
Central and Eastern Europe	-277	-239	-536	-396	-557	-162	-40.8

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

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 2006.

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

<sup>b</sup>Not meaningful for purposes of comparison.

**Table MM-9** Changes in U.S. imports of steel mill products, 2002–06

Item	2002	2003	2004	2005	2006	Change, 2006 from 2005	
						Absolute	Percent
<i>Million dollars</i>							
Carbon and alloy steel pipe and tube .....	2,136	2,098	3,483	5,259	6,953	1,694	32.2
Carbon and alloy steel semifinished products .....	1,601	1,078	2,700	2,944	3,836	892	30.3
Carbon and alloy steel bar, rod, and light shapes .....	1,928	1,669	3,769	3,327	4,043	716	21.5
Stainless steel plate, sheet, and strip .....	553	624	1,139	1,206	1,768	562	46.6
Carbon and alloy steel angle, shapes, and sections .....	338	286	448	512	769	257	50.2
Tool steels .....	184	220	271	466	405	-61	-13.1
All other steel mill products .....	1,603	1,496	2,343	2,858	3,216	358	12.5
Total .....	12,203	10,499	21,559	23,534	31,500	7,966	33.8

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

Note.—Calculations based on unrounded data.

Carbon and alloy steel semifinished products accounted for about 11 percent of the increase in imports. These products are used as inputs to produce other steel mill products such as sheet and strip, which were needed to respond to the high level of demand. Imports of semifinished products from Russia (\$833 million) and Ukraine (\$604 million) increased by 141 percent and 389 percent, respectively, whereas imports from Mexico (\$860 million) and Brazil (\$564 million), previously the largest sources, each declined by 16 percent.

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## Copper and Related Articles<sup>19</sup>

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*Change in 2006 from 2005:*

**U.S. trade deficit: Increased by \$3.4 billion (78 percent) to \$7.8 billion**

**U.S. exports: Increased by \$2.6 billion (78 percent) to \$6.1 billion**

**U.S. imports: Increased by \$6.0 billion (78 percent) to \$13.8 billion**

The U.S. trade deficit in copper and related articles widened in 2006, as the United States imported greater values of several key products—particularly refined cathodes and other unalloyed unwrought forms of copper (\$3.0 billion net import gain), but also unrefined anodes (\$522 million), tubes, pipes, and fittings (\$518 million), wire rods and wire (\$452 million), and plates, sheets, strips, and foils (\$198 million). The deficit grew despite strongly increased exports of waste, scrap, ash, and residues, which increased by \$1.4 billion. Values of both U.S. exports and imports were enhanced by near-continuously rising copper prices in recent years, attributable to continued robust worldwide demand that could not be met by primary (mine) production and secondary (scrap) recovery without drawing down commodity exchange, merchant, and industry inventories (table MM-10).<sup>20</sup> For example, the value of copper waste, scrap, ash, and residue exports increased by 126 percent in 2006, whereas the quantity exported increased by only 26 percent (table MM-11). Likewise, the value of refined cathodes and other unalloyed unwrought forms of copper imports increased by 144 percent, but the quantity imported increased by only 7 percent. Average annual prices for refined copper cathodes, the benchmark for pricing of other unwrought, semi-manufactured, and waste and scrap forms of copper,<sup>21</sup> rose by over 80 percent from 2005 to 2006 (table MM-10).

### *U.S. Exports*

The overall increase in U.S. exports of copper and related articles in 2006 is primarily attributable to increased exports of copper waste, scrap, ash, and residues, which accounted for 51 percent of the overall export shift (table MM-11). In addition to increased copper prices, the rise in U.S. exports of this material to record levels in 2006 is attributable in part to weakness of the U.S. dollar.<sup>22</sup> China was both the predominant market destination and registered the largest increase in U.S. exports of copper waste, scrap, ash, and residues (up by \$763 million, or 113 percent to \$1.4 billion), followed by Canada (up by \$161 million, or 191 percent to \$246 million) and Taiwan (up by \$103 million, or 196 percent to \$156 million) (table MM-12). The robust pace of China's economic expansion in recent

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<sup>19</sup> This industry/commodity group includes unrefined and refined copper and copper alloys in unwrought forms, copper and copper alloys in various semi-manufactured forms (e.g., bars, rods, profiles, and wires; plates, sheets, strips, and foils; tubes, pipes, and fittings) and copper and copper alloy waste, scrap, ash, and residues.

<sup>20</sup> Compiled from World Bureau of Metal Statistics, *World Metal Statistics*.

<sup>21</sup> Unwrought and fabricated copper products are set at a premium, reflecting conversion charges, over the producers' delivered price of copper cathodes, which in turn, are set at a premium over the First-Position (current-month) price on the New York Commodity Mercantile Exchange (COMEX). Daniel Edelstein, copper commodity specialist, U.S. Geological Survey, Reston, VA, telephone interview by Commission staff, January 31, 2006.

<sup>22</sup> Marley, "Ups and Downs."

**TABLE MM-10** Average annual refined copper cathode prices  
Cents per pound

Year	COMEX <sup>a</sup>	LME <sup>b</sup>	U.S. producers <sup>c</sup>
Change in 2006 from 2005:			
Absolute .....	140.710	138.013	141.258
percent .....	83.6	82.7	81.4
2006 .....	308.937	304.850	314.751
2005 .....	168.227	166.837	173.493
2004 .....	128.972	129.958	133.938
2003 .....	81.050	80.684	85.012
2002 .....	71.672	70.721	75.805

Source: Compiled by the U.S. Geological Survey.

<sup>a</sup>New York Commodities Exchange (COMEX) first-position price.

<sup>b</sup>London Metals Exchange (LME) grade-A cash price.

**TABLE MM-11** Changes in U.S. exports of copper and related articles, 2002–06

Item	2002	2003	2004	2005	2006	Change, 2006 from 2005	
						Absolute	Percent
<i>Million dollars</i>							
Waste, scrap, ash, and residues .....	514	674	904	1,079	2,434	1,355	125.6
Wire rods and wire .....	236	235	521	664	1,228	564	84.9
Bars, rods, and profiles .....	145	181	199	235	386	152	64.3
Tubes, pipes, and fittings .....	207	217	266	314	462	148	47.1
Refined cathodes and other							
unalloyed unwrought forms .....	48	178	233	97	237	140	144.3
Mattes and cements .....	12	15	5	26	118	93	353.8
Plates, sheets, strips, and foils .....	248	293	419	537	606	70	12.8
Unrefined anodes .....	51	44	121	97	84	-14	-13.4
All others .....	282	249	339	356	496	140	39.3
Total .....	1,744	2,086	3,006	3,405	6,052	2,647	77.7

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

Note.—Calculations based on unrounded data.

**TABLE MM-12** Copper and related articles (MM036): U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 2002–06<sup>a</sup>

Item	2002	2003	2004	2005	2006	Change, 2006 from 2005	
						Absolute	Percent
	<i>Million dollars</i>						
U.S. exports of domestic merchandise:							
Canada	405	396	578	663	1,241	578	87.2
Chile	2	1	1	3	2	-1	-18.5
Mexico	462	467	779	959	1,594	635	66.2
China	274	596	608	852	1,665	813	95.5
Peru	1	1	1	1	1	1	165.4
Germany	66	50	88	76	185	109	142.8
Russia	1	( <sup>b</sup> )	2	3	8	5	185.6
Japan	71	71	97	103	167	64	61.5
Brazil	7	5	9	11	18	7	61.6
Taiwan	53	62	150	99	223	124	124.9
All other	403	437	693	636	948	312	49.1
Total	1,744	2,086	3,006	3,405	6,052	2,647	77.7
EU-15							
EU-25	182	174	262	240	425	185	77.3
OPEC	183	176	264	246	438	192	78.1
Latin America	15	17	34	35	48	14	39.6
CBERA	491	497	822	1,016	1,672	656	64.5
Asia	11	14	23	22	34	12	54.4
Sub-Saharan Africa	623	977	1,268	1,416	2,603	1,187	83.9
Central and Eastern Europe	3	3	6	4	11	7	147.8
	1	2	3	7	14	7	108.4
U.S. imports of merchandise for consumption:							
Canada	1,074	1,057	1,606	2,073	3,364	1,291	62.3
Chile	446	685	1,014	1,788	4,145	2,357	131.8
Mexico	416	329	509	774	1,060	286	36.9
China	119	160	263	319	653	334	104.5
Peru	468	466	468	592	1,045	454	76.7
Germany	204	217	357	381	592	211	55.5
Russia	110	103	142	389	742	353	90.9
Japan	132	125	155	155	223	68	44.0
Brazil	131	105	170	254	338	84	33.1
Taiwan	107	110	122	112	133	21	18.4
All other	508	535	760	929	1,507	578	62.3
Total	3,715	3,893	5,565	7,766	13,803	6,037	77.7
EU-15							
EU-25	462	496	725	854	1,153	298	34.9
OPEC	488	518	773	927	1,233	307	33.1
Latin America	6	5	9	10	13	3	30.8
CBERA	1,477	1,598	2,182	3,435	6,633	3,198	93.1
Asia	10	9	16	21	37	17	81.2
Sub-Saharan Africa	472	514	723	801	1,345	545	68.0
Central and Eastern Europe	18	38	30	8	17	8	99.5
	29	26	60	84	113	29	33.9

See footnote(s) at end of table.

**TABLE MM-12** Copper and related articles (MM036): U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 2002–06<sup>a</sup>—*Continued*

Item	2002	2003	2004	2005	2006	Change, 2006 from 2005		
						Absolute	Percent	
	<i>Million dollars</i>							
U.S. merchandise trade balance:								
Canada .....	-669	-661	-1,028	-1,410	-2,123	-713	-50.6	
Chile .....	-444	-684	-1,013	-1,785	-4,142	-2,357	-132.1	
Mexico .....	46	138	271	184	533	349	189.2	
China .....	155	435	345	532	1,012	479	90.0	
Peru .....	-467	-465	-467	-591	-1,044	-453	-76.6	
Germany .....	-138	-167	-270	-305	-407	-102	-33.6	
Russia .....	-109	-103	-140	-386	-734	-348	-90.2	
Japan .....	-61	-54	-58	-51	-56	-4	-8.8	
Brazil .....	-124	-100	-161	-243	-321	-77	-31.8	
Taiwan .....	-54	-48	28	-13	90	103	<sup>(c)</sup>	
All other .....	-105	-98	-67	-293	-559	-266	-90.9	
Total .....	-1,972	-1,807	-2,559	-4,360	-7,751	-3,390	-77.7	
EU-15 .....	-280	-322	-463	-615	-727	-113	-18.3	
EU-25 .....	-305	-342	-509	-681	-795	-114	-16.8	
OPEC .....	9	12	25	24	35	11	43.3	
Latin America .....	-986	-1,101	-1,360	-2,418	-4,961	-2,543	-105.1	
CBERA .....	2	5	7	2	-3	-5	<sup>(c)</sup>	
Asia .....	151	463	546	615	1,258	642	104.4	
Sub-Saharan Africa .....	-15	-35	-25	-4	-6	-2	-46.2	
Central and Eastern Europe .....	-28	-23	-57	-78	-99	-21	-27.3	

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

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 2006.

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

<sup>b</sup>Less than \$500,000.

<sup>c</sup>Not meaningful for purposes of comparison.

years has driven up its imports of waste, scrap, ash, and residues for use by its copper industry to meet growing Chinese demand for copper-containing products, particularly in the electrical transmission, electrical machinery and equipment, and transportation equipment sectors.<sup>23</sup>

### ***U.S. Imports***

The overall increase in U.S. imports of copper and related articles in 2006 is primarily attributable to increased imports of refined cathodes and other unalloyed unwrought forms of copper, which accounted for 52 percent of the overall import shift (table MM-13). Almost all (94 percent) of the increase in imports of unalloyed unwrought forms was of refined copper cathodes and sections thereof, which increased by \$2.9 billion (90 percent) to \$6.2 billion in 2006. Although the United States is the world's second largest producer of mined copper,<sup>24</sup> it relies upon foreign sources for copper cathodes to meet its domestic consumption needs. Closure of a copper smelter in October 2005<sup>25</sup> reduced the domestic supply of unrefined anodes for subsequent electrolytic refining into cathodes, and the closure of a major refining facility in October 2005<sup>26</sup> further constrained copper cathode output by the United States in 2006. Chile, the world's largest producer of mined copper, was the leading source of U.S. imports of copper cathodes in 2006 and also registered the largest increases in U.S. imports, up by \$1.7 billion (118 percent) to \$3.2 billion. Other major suppliers included Canada (up by \$437 million, or 50 percent to \$1.3 billion), Peru (up by \$437 million, or 79 percent to \$993 million), and Kazakhstan (up by \$290 million, or 1,268 percent to \$313 million).<sup>27</sup>

Among the fabricated forms of copper and copper alloys imported by the United States in 2006, wire rods and wire accounted for the largest portion (19 percent), followed by tubes, pipes, and fittings (11 percent). Domestic demand remained robust for these fabricated copper products in electrical wiring and plumbing applications, respectively, despite the decline in residential construction activity through much of 2006, as the value of overall (residential and commercial) construction activity grew by nearly 5 percent in 2006.<sup>28</sup> U.S. imports of wire rods and wire rose by \$1.0 billion (65 percent) to \$2.6 billion in 2006. Canada was the predominant source of these imports and also registered the largest increase (up by \$565 million, or 95 percent, to \$1.2 billion), followed by Russia (up by \$332 million,

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<sup>23</sup> See e.g., Barry, "What's Behind the Waning of China's Insatiable Appetite for Copper?"

<sup>24</sup> U.S. mined copper output increased by 1.1 million metric tons (7 percent) to reach 1.2 million metric tons in 2006, or 8 percent of the world's output (15.3 million metric tons) in that year. Edelstein, "Copper," 53.

<sup>25</sup> Closure of this facility reduced U.S. copper smelting capacity by 190,000 metric tons (21 percent) to 710,000 metric tons for 2006. International Copper Study Group, "Table 1, World Copper Smelters Capacities 2004 to 2009," 77.

<sup>26</sup> Closure of this facility reduced U.S. copper refining capacity by 172,000 metric tons (7 percent) to 2.1 million metric tons for 2006. International Copper Study Group, "Table 1, World Copper Refineries Capacities 2004 to 2009," 100–101.

<sup>27</sup> In 2006, Chile produced 5.4 million metric tons of mined copper or 35 percent of the global total (15.3 million metric tons). Peru produced 1.1 million metric tons, Canada produced 600,000 metric tons, and Kazakhstan produced 430,000 metric tons. Edelstein, "Copper," 53.

<sup>28</sup> U.S. Census Bureau, "Table 2, Value of Construction Put in Place in the United States, Not Seasonally Adjusted."



**TABLE MM-13** Changes in U.S. imports of copper and related articles, 2002–06

Item	2002	2003	2004	2005	2006	Change, 2006 from 2005	
						Absolute	Percent
<i>million dollars</i>							
Refined cathodes and other							
unalloyed unwrought forms . . . . .	1,453	1,548	2,142	3,496	6,620	3,124	89.4
Wire rods and wire . . . . .	516	544	934	1,559	2,575	1,016	65.2
Tubes, pipes, and fittings . . . . .	448	476	717	829	1,496	666	80.5
Unrefined anodes . . . . .	366	390	419	420	928	508	121.0
Plates, sheets, strips, and foils . . . . .	358	337	504	473	740	267	56.4
Waste, scrap, ash, and residues . . . . .	125	122	188	275	481	206	74.9
Bars, rods, and profiles . . . . .	145	152	266	289	397	108	37.4
All others . . . . .	304	324	395	424	565	141	33.3
<b>Total . . . . .</b>	<b>3,715</b>	<b>3,893</b>	<b>5,565</b>	<b>7,766</b>	<b>13,803</b>	<b>6,037</b>	<b>77.7</b>

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

Note.—Calculations based on unrounded data.

or 86 percent, to \$719 million). Over this same period, U.S. imports of tubes, pipes, and fittings rose by \$666 million (80 percent) to \$1.5 billion. China registered the largest increase (up by \$265 million, or 161 percent, to \$429 million), followed by Mexico (up by \$121 million, or 51 percent, to \$360 million).

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# Unwrought Aluminum

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## *Change in 2006 from 2005:*

**U.S. trade deficit: Increased by \$742 million (12 percent) to \$6.8 billion**

**U.S. exports: Increased by \$1.4 billion (68 percent) to \$3.5 billion**

**U.S. imports: Increased by \$2.2 billion (27 percent) to \$10.3 billion**

The trade deficit in unwrought aluminum rose to an historical high in 2006, as the value of U.S. imports of unwrought aluminum (\$2.2 billion) outpaced U.S. exports (\$1.4 billion) (table MM-14). The value of both U.S. imports and U.S. exports rose substantially during 2006, by 26 percent and 68 percent, respectively. This reflected a combination of continued robust economic growth worldwide and continued strong demand for aluminum in most major industrial markets, which led to significantly higher prices for aluminum. Largely because of the price increases, the growth in the value of U.S. imports of unwrought aluminum for 2006 occurred despite a slowdown in domestic aluminum consumption (by volume), which was attributable to a decline in housing and other construction-related demand by the end of the year. The most notable increase in the trade deficit in 2006 was with Canada, the dominant supplier to the U.S. market.

## *U.S. Exports*

The value of U.S. exports of unwrought aluminum registered a third consecutive year of very strong growth in 2006, increasing by 68 percent over 2005 levels to \$3.5 billion. The overall export increase was largely fueled by growth in exports of aluminum waste and scrap, which accounted for nearly 80 percent of the total increase by value (table MM-15). China is a significant consumer of aluminum scrap globally as a result of the rapid industrialization of the Chinese economy, the consequent increased use of aluminum, and the lack of aluminum scrap in the country.<sup>29</sup> Most scrap in China is consumed by Chinese aluminum diecasters to produce ingots. Exports to China constituted the largest value increase, rising by 111 percent, and accounting for 57 percent of the total increase in U.S. exports of unwrought aluminum in 2006. Exports to Mexico grew by 49 percent and accounted for 16 percent of the total increase in 2006.

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<sup>29</sup> Hui, "Sizing Up China's Scrap Resources."

**TABLE MM-14** Unwrought aluminum (MM037): U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 2002–06<sup>a</sup>

Item	2002	2003	2004	2005	2006	Change, 2006 from 2005	
						Absolute	Percent
<i>Million dollars</i>							
U.S. exports of domestic merchandise:							
Canada .....	358	370	454	480	568	88	18.3
China .....	170	240	356	730	1,540	810	111.0
Russia .....	( <sup>b</sup> )	( <sup>b</sup> )	2	2	4	2	82.2
Mexico .....	250	190	327	452	675	222	49.2
Brazil .....	( <sup>b</sup> )	( <sup>b</sup> )	3	3	2	-1	-26.7
Venezuela .....	( <sup>b</sup> )	( <sup>b</sup> )	1	( <sup>b</sup> )	( <sup>b</sup> )	( <sup>b</sup> )	8.6
United Arab Em .....	3	2	2	1	2	1	96.0
Korea .....	50	55	74	164	261	97	59.0
Bahrain .....	0	( <sup>b</sup> )	0	0	0	0	0.0
South Africa .....	1	( <sup>b</sup> )	( <sup>b</sup> )	( <sup>b</sup> )	( <sup>b</sup> )	( <sup>b</sup> )	2,218.5
All other .....	117	143	180	253	455	201	79.6
Total .....	950	1,000	1,397	2,087	3,508	1,421	68.1
EU-15 .....	20	17	16	20	30	10	49.5
EU-25 .....	20	17	16	20	37	16	80.8
OPEC .....	3	2	11	14	22	8	54.5
Latin America .....	254	193	337	468	702	234	50.0
CBERA .....	2	1	3	3	7	4	137.4
Asia .....	311	411	568	1,089	2,167	1,078	99.0
Sub-Saharan Africa .....	1	1	3	1	6	5	384.5
Central and Eastern Europe .....	( <sup>b</sup> )	0	( <sup>b</sup> )	( <sup>b</sup> )	7	6	6,940.7
U.S. imports of merchandise for consumption:							
Canada .....	2,658	3,008	3,507	4,197	5,874	1,678	40.0
China .....	14	15	54	158	184	25	16.1
Russia .....	924	931	1,633	1,586	1,691	105	6.6
Mexico .....	70	82	106	143	231	88	61.5
Brazil .....	110	154	484	481	421	-60	-12.5
Venezuela .....	303	267	283	297	329	32	10.7
United Arab Em .....	96	82	102	165	270	105	63.7
Korea .....	5	( <sup>b</sup> )	( <sup>b</sup> )	( <sup>b</sup> )	3	3	624.8
Bahrain .....	27	5	5	47	208	161	345.9
South Africa .....	21	13	69	149	201	52	34.7
All other .....	545	442	594	930	905	-26	-2.7
Total .....	4,774	5,000	6,837	8,153	10,317	2,163	26.5
EU-15 .....	39	45	63	88	140	52	59.8
EU-25 .....	58	45	64	89	140	51	57.1
OPEC .....	404	352	395	470	626	156	33.1
Latin America .....	709	725	1,114	1,182	1,283	102	8.6
CBERA .....	100	104	113	127	136	8	6.5
Asia .....	23	18	66	186	202	16	8.5
Sub-Saharan Africa .....	85	72	123	210	296	86	40.9
Central and Eastern Europe .....	2	2	( <sup>b</sup> )	0	( <sup>b</sup> )	( <sup>b</sup> )	( <sup>c</sup> )

See footnote(s) at end of table.

**TABLE MM-14** Unwrought aluminum (MM037): U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 2002–06<sup>a</sup>—*Continued*

Item	2002	2003	2004	2005	2006	Change, 2006 from 2005		
						Absolute	Percent	
	<i>Million dollars</i>							
U.S. merchandise trade balance:								
Canada	-2,300	-2,638	-3,053	-3,716	-5,307	-1,590	-42.8	
China	156	225	302	572	1,356	785	137.3	
Russia	-924	-930	-1,631	-1,584	-1,687	-103	-6.5	
Mexico	180	108	221	309	444	134	43.5	
Brazil	-109	-154	-481	-478	-419	59	12.4	
Venezuela	-303	-266	-283	-297	-329	-32	-10.8	
United Arab Em	-94	-80	-101	-164	-267	-104	-63.5	
Korea	45	55	74	164	258	94	57.5	
Bahrain	-27	-5	-5	-47	-208	-161	-345.9	
South Africa	-20	-13	-69	-149	-201	-52	-34.6	
All other	-428	-299	-413	-677	-450	227	33.5	
Total	-3,824	-3,999	-5,440	-6,067	-6,809	-742	-12.2	
EU-15	-19	-28	-47	-67	-110	-42	-62.9	
EU-25	-38	-28	-48	-69	-103	-34	-50.1	
OPEC	-401	-350	-385	-456	-604	-148	-32.4	
Latin America	-455	-532	-777	-714	-581	132	18.5	
CBERA	-97	-103	-111	-124	-128	-4	-3.3	
Asia	288	393	502	903	1,965	1,062	117.6	
Sub-Saharan Africa	-84	-71	-121	-209	-290	-81	-38.9	
Central and Eastern Europe	-1	-2	<sup>(b)</sup>	<sup>(b)</sup>	6	6	6,778.3	

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

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 2006.

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

<sup>b</sup>Less than \$500,000.

<sup>c</sup>Not meaningful for purposes of comparison.

**TABLE MM-15** Changes in U.S. exports of unwrought aluminum, 2002–06

Item	2002	2003	2004	2005	2006	Change, 2006 from 2005	
						Absolute	Percent
<i>Million dollars</i>							
Aluminum waste and scrap . . . . .	509	608	730	1,324	2,448	1,124	84.9
Aluminum (alloy), unwrought . . . .	348	282	427	562	771	209	37.2
All other unwrought aluminum . . . .	93	110	240	201	289	88	43.8
Total . . . . .	950	1,000	1,397	2,087	3,508	1,421	68.1

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

Note.—Calculations based on unrounded data.

### *U.S. Imports*

The value of U.S. imports of unwrought aluminum registered a third consecutive year of double-digit increase, rising to \$10.3 billion in 2006, or by 27 percent. The increase in the total value of aluminum imports was attributable to a 32-percent rise in the average price of aluminum ingot (from \$0.91/lb. in 2005 to \$1.20/lb. in 2006),<sup>30</sup> as demand for aluminum worldwide continued to grow faster than aluminum smelting capacity. The total value of U.S. imports increased despite a 5-percent decline in the quantity of imports of unwrought pure and alloy aluminum ingot, the two principal product categories (table MM-16). Imports of ingot declined in quantity due to the rise in aluminum prices and the sluggish domestic residential construction and transportation markets in 2006, two markets which had provided strong growth for aluminum since 2002. Imports from Canada, traditionally the leading U.S. supplier, constituted the largest volume increase, rising by 40 percent, and accounted for 57 percent of total imports in 2006. Imports from Russia grew by 7 percent and accounted for 17 percent of the total in 2006.

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**TABLE MM-16** Changes in U.S. imports of unwrought aluminum, 2002–06

Item	2002	2003	2004	2005	2006	Change, 2006 from 2005	
						Absolute	Percent
<i>Million dollars</i>							
Aluminum (alloy), unwrought . . . .	2,276	2,025	2,885	3,468	4,852	1,384	39.9
Aluminum (non alloy), unwrought . . .	1,917	2,372	3,109	3,726	4,249	523	14.0
All other unwrought aluminum . . . .	581	603	843	959	1,216	257	26.8
Total . . . . .	4,774	5,000	6,837	8,153	10,317	2,164	26.5

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

Note.—Calculations based on unrounded data.

<sup>30</sup> U.S. Geological Survey, *Minerals Information*, “Aluminum,” 18.

## Certain Base Metals and Chemical Elements

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*Change in 2006 from 2005:*

**U.S. trade deficit: Increased by \$597 million (39 percent) to \$2.1 billion**

**U. S. exports: Increased by \$910 million (32 percent) to \$3.8 billion**

**U.S. imports: Increased by \$1.5 billion (34 percent) to \$5.9 billion**

The U.S. trade deficit in certain base metals and chemical elements expanded in 2006 as price increases in certain import categories caused imports to expand more than exports during the period. The increase in imports largely reflected higher prices paid for nickel metal due to strong demand globally. In China, there was particularly strong demand for nickel for use in the production of stainless steel. The increase in the value of U.S. exports was largely attributable to an increase in exports of wrought titanium and semi-finished nickel to the EU-25, China, and Japan. The most notable increases in the trade deficit in 2006 were with Russia, Canada, and Australia (table MM-17).

### *U.S. Exports*

The increase in the total value of sector exports resulted primarily from a rise in exports of wrought titanium products and of semi-finished nickel alloy products (bars and rods), together accounting for 47 percent of the increase in 2006 (table MM-18). Wrought titanium exports benefitted from strong aerospace and/or defense-related demand from the EU-25, China, and Japan, along with rising titanium prices, which rose almost 20 percent to \$25/lb by December 2006.<sup>31</sup> Strong worldwide demand for nickel for the production of stainless steel, primarily by China,<sup>32</sup> resulted in a doubling in the price of nickel and the increase in semi-finished nickel exports from the United States. Combined titanium and nickel exports climbed 63 percent in value and 22 percent in quantity in 2006. U.S. exports of miscellaneous waste and scrap (gallium, hafnium, indium, niobium, and rhenium) continued to increase sharply in 2006, reflecting continued sharp increases in commodity prices. The price of indium, in particular, has increased from \$97/kg in 2002 to \$855/kg<sup>33</sup> in 2006 due to a supply shortage of and strong demand for indium for use in liquid crystal displays (LCDs).

### *U.S. Imports*

The increase in the value of total sector imports (table MM-19) resulted largely from the rise in imports of unwrought nickel metal as strong worldwide demand, primarily by China, resulted in a doubling in the price of nickel from \$6.41/lb in January 2006 to \$15.90/lb at the end of 2006.<sup>34</sup> At the same time, nickel stockpiles worldwide reached record low levels

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<sup>31</sup> *American Metal Market*, "Titanium Pricing."

<sup>32</sup> Harman, "China's Nickel Demand to Remain Strong Amidst High Prices." In 2006, the volume of nickel demand by China increased nearly 8 percent and China consumed nearly 60 percent of all nickel produced worldwide.

<sup>33</sup> U.S. Geological Survey, *Minerals Information*, "Indium," 78.

<sup>34</sup> *American Metal Market*, "Nickel and Titanium Pricing."

**TABLE MM-17** Certain base metals and chemical elements (MM041): U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 2002–06<sup>a</sup>

Item	2002	2003	2004	2005	2006	Change, 2006 from 2005	
						Absolute	Percent
<i>Million dollars</i>							
U.S. exports of domestic merchandise:							
Canada	179	168	195	237	320	84	35.3
China	30	47	106	545	769	224	41.0
Russia	1	1	1	3	2	-1	-19.7
United Kingdom	259	297	308	346	484	138	40.0
Germany	148	138	129	192	242	50	26.1
Japan	119	165	196	264	350	86	32.5
France	134	124	168	264	349	84	31.9
Australia	12	11	10	13	22	9	70.8
Norway	1	( <sup>2</sup> )	1	2	4	3	150.1
Belgium	69	84	114	172	188	17	9.7
All other	546	534	683	846	1,062	217	25.6
<b>Total</b>	<b>1,498</b>	<b>1,571</b>	<b>1,913</b>	<b>2,882</b>	<b>3,792</b>	<b>910</b>	<b>31.6</b>
EU-15	731	755	845	1,138	1,504	366	32.1
EU-25	735	760	872	1,203	1,538	335	27.8
OPEC	7	12	17	25	30	4	17.5
Latin America	140	110	137	184	235	51	27.7
CBERA	3	4	12	17	26	9	51.0
Asia	297	382	526	1,052	1,439	386	36.7
Sub-Saharan Africa	7	7	10	10	14	3	30.4
Central and Eastern Europe	3	5	25	67	36	-31	-45.9
U.S. imports of merchandise for consumption:							
Canada	538	478	1,039	1,094	1,448	354	32.4
China	106	118	249	264	353	89	33.9
Russia	257	367	472	515	951	436	84.7
United Kingdom	67	95	130	157	199	42	26.9
Germany	140	141	241	332	430	99	29.8
Japan	119	113	159	236	274	38	15.9
France	87	97	129	226	220	-7	-2.9
Australia	82	107	177	202	381	179	88.3
Norway	84	196	272	373	369	-4	-1.0
Belgium	24	26	47	47	48	2	3.8
All other	449	510	910	972	1,250	278	28.6
<b>Total</b>	<b>1,952</b>	<b>2,248</b>	<b>3,825</b>	<b>4,417</b>	<b>5,924</b>	<b>1,507</b>	<b>34.1</b>
EU-15	429	511	759	981	1,227	245	25.0
EU-25	440	514	768	995	1,242	247	24.9
OPEC	12	12	38	44	39	-4	-10.1
Latin America	170	195	320	318	418	101	31.7
CBERA	( <sup>b</sup> )	( <sup>b</sup> )	( <sup>b</sup> )	2	( <sup>b</sup> )	-1	-83.3
Asia	256	275	570	631	782	151	23.9
Sub-Saharan Africa	40	44	89	102	97	-5	-4.6
Central and Eastern Europe	1	1	3	4	6	2	36.4

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See footnote(s) at end of table.

**TABLE MM-17** Certain base metals and chemical elements (MM041): U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 2002–06<sup>a</sup>—*Continued*

Item	2002	2003	2004	2005	2006	Change, 2006 from 2005	
						Absolute	Percent
	<i>Million dollars</i>						
U.S. merchandise trade balance:							
Canada .....	-359	-310	-843	-857	-1,127	-271	-31.6
China .....	-76	-70	-143	281	416	134	47.7
Russia .....	-256	-365	-471	-512	-949	-437	-85.3
United Kingdom .....	192	202	178	189	285	96	50.9
Germany .....	8	-3	-112	-140	-188	-49	-34.9
Japan .....	<sup>(b)</sup>	52	37	28	76	48	175.0
France .....	47	27	39	38	129	91	237.7
Australia .....	-70	-96	-167	-189	-359	-169	-89.5
Norway .....	-83	-195	-271	-371	-365	6	1.7
Belgium .....	46	58	68	125	140	15	11.9
All other .....	97	25	-227	-126	-188	-61	-48.6
Total .....	-454	-676	-1,912	-1,535	-2,131	-597	-38.9
EU-15 .....	302	245	86	156	277	120	77.0
EU-25 .....	295	246	103	208	296	87	41.9
OPEC .....	-4	1	-21	-19	-10	9	47.2
Latin America .....	-30	-84	-183	-133	-183	-50	-37.2
CBERA .....	3	4	12	16	26	10	65.1
Asia .....	41	107	-45	421	656	235	55.9
Sub-Saharan Africa .....	-33	-37	-79	-91	-84	8	8.6
Central and Eastern Europe .....	2	3	22	63	30	-32	-51.7

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

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 2006.

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

<sup>b</sup>Less than \$500,000.



**TABLE MM-18** Changes in U.S. exports of certain base metals and chemical elements, 2002–06

Item	2002	2003	2004	2005	2006	Change, 2006 from 2005	
						Absolute	Percent
<i>—Million dollars—</i>							
Titanium, wrought . . . . .	184	182	227	380	632	252	66.3
Waste and scrap, miscellaneous . . . . .	6	17	55	457	579	122	26.7
Nickel alloy, not cold formed . . . . .	56	63	97	172	271	99	57.6
Nickel alloy, cold formed . . . . .	43	48	74	131	208	77	58.8
All other . . . . .	1,209	1,261	1,487	1,742	2,102	360	20.7
Total . . . . .	1,498	1,571	1,913	2,882	3,792	910	31.6

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

Note.—Calculations based on unrounded data.

**TABLE MM-19** Changes in U.S. imports of certain base metals and chemical elements, 2002–06

Item	2002	2003	2004	2005	2006	Change, 2006 from 2005	
						Absolute	Percent
<i>—Million dollars—</i>							
Nickel (non alloy), unwrought . . . . .	648	863	1,451	1,617	2,565	948	58.6
Titanium, unwrought . . . . .	93	79	106	185	351	166	89.7
All other . . . . .	1,211	1,306	2,268	2,615	3,008	393	15.0
Total . . . . .	1,952	2,248	3,825	4,417	5,924	1,507	34.1

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

Note.—Calculations based on unrounded data.

in 2006.<sup>35</sup> U.S. nickel imports increased by 59 percent in value and 13 percent in quantity in 2006. The increase in U.S. imports of unwrought nickel in 2006 was fed by strong growth in demand for nickel domestically due to increasing U.S. production of stainless steel. In addition, the rise in imports of unwrought titanium and titanium waste scrap, by 90 percent in volume and 25 percent in quantity in 2006, also contributed to a rise in the total value of sector imports. The gains were due to a combination of rising titanium prices worldwide and strong commercial and defense-related aerospace demand in the United States.

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<sup>35</sup> Harman, “China’s Nickel Demand to Remain Strong Amidst High Prices.”

**TABLE MM-20** Minerals and metals : U.S. trade for industry/commodity groups and subgroups, 2002–06<sup>a</sup>

USITC code <sup>b</sup>	Industry/commodity group	2002	2003	2004	2005	2006	Change, 2006 from 2005	
							Absolute	Percent
<i>Million dollars</i>								
MM001	Clays and related mineral products:							
	Exports .....	941	986	1,069	1,127	1,236	109	9.7
	Imports .....	158	180	210	231	281	50	21.7
	Trade balance .....	782	806	859	896	955	59	6.6
MM002	Fluorspar and miscellaneous mineral substances:							
	Exports .....	39	30	36	40	37	-3	-7.9
	Imports .....	147	147	167	192	202	11	5.6
	Trade balance .....	-109	-117	-131	-151	-165	-14	-9.2
MM003	Iron ores and concentrates:							
	Exports .....	249	248	334	584	636	52	8.9
	Imports .....	313	328	370	532	610	79	14.8
	Trade balance .....	-64	-80	-36	52	25	-27	-51.5
MM004	Copper ores and concentrates:							
	Exports .....	79	73	134	363	770	408	112.4
	Imports .....	105	18	25	( <sup>c</sup> )	( <sup>c</sup> )	( <sup>c</sup> )	-58.4
	Trade balance .....	-26	55	109	362	770	408	112.6
MM005	Lead ores, concentrates, and residues:							
	Exports .....	133	197	215	230	362	132	57.2
	Imports .....	( <sup>c</sup> )	0	( <sup>c</sup> )	( <sup>c</sup> )	( <sup>c</sup> )	( <sup>c</sup> )	861.2
	Trade balance .....	133	197	215	230	362	132	57.2
MM005A	Lead ores and concentrates:							
	Exports .....	117	144	207	224	347	123	55.1
	Imports .....	( <sup>c</sup> )	0	0	0	( <sup>c</sup> )	( <sup>c</sup> )	( <sup>d</sup> )
	Trade balance .....	117	144	207	224	347	123	55.1
MM006	Zinc ores, concentrates, and residues:							
	Exports .....	339	349	426	490	1,076	586	119.7
	Imports .....	53	68	109	129	229	100	77.5
	Trade balance .....	286	281	317	361	846	486	134.8
MM006A	Zinc ores and concentrates:							
	Exports .....	328	340	417	483	1,068	586	121.3
	Imports .....	45	60	99	117	183	66	56.5
	Trade balance .....	283	280	319	366	885	520	142.1
MM007	Certain ores, concentrates, ash, and residues:							
	Exports .....	183	289	507	1,643	1,687	44	2.7
	Imports .....	728	685	962	1,537	1,364	-173	-11.3
	Trade balance .....	-545	-396	-454	107	324	217	203.0

See footnote(s) at end of table.

**TABLE MM-20** Minerals and metals : U.S. trade for industry/commodity groups and subgroups, 2002–06<sup>a</sup>—Continued

USITC code <sup>b</sup>	Industry/commodity group	2002	2003	2004	2005	2006	Change, 2006 from 2005	
							Absolute	Percent
<i>Million dollars</i>								
MM007A	Molybdenum ores and concentrates:							
	Exports .....	112	194	358	1,447	1,457	10	0.7
	Imports .....	37	51	268	746	395	-351	-47.1
	Trade balance .....	76	143	90	701	1,062	361	51.6
MM008	Precious metal ores and concentrates:							
	Exports .....	68	32	40	27	49	22	82.1
	Imports .....	43	23	21	20	14	-6	-28.7
	Trade balance .....	26	8	19	7	35	28	380.2
MM008A	Gold ores and concentrates:							
	Exports .....	10	13	16	16	40	23	142.9
	Imports .....	28	22	19	19	13	-6	-33.5
	Trade balance .....	-18	-9	-3	-3	27	30	( <sup>d</sup> )
MM008B	Silver ores and concentrates:							
	Exports .....	57	16	2	2	4	2	73.8
	Imports .....	13	1	2	( <sup>c</sup> )	0	( <sup>c</sup> )	-100.0
	Trade balance .....	44	15	( <sup>c</sup> )	2	4	2	100.3
MM009	Cement, stone, and related products:							
	Exports .....	1,279	1,405	1,648	1,853	2,399	546	29.5
	Imports .....	4,611	4,945	5,897	7,144	8,151	1,008	14.1
	Trade balance .....	-3,332	-3,540	-4,248	-5,291	-5,753	-462	-8.7
MM009A	Cement:							
	Exports .....	58	62	63	68	114	46	67.1
	Imports .....	939	940	1,139	1,563	1,842	280	17.9
	Trade balance .....	-881	-879	-1,076	-1,494	-1,728	-234	-15.6
MM010	Industrial ceramics:							
	Exports .....	645	600	625	702	784	82	11.7
	Imports .....	497	551	672	749	880	131	17.5
	Trade balance .....	148	49	-48	-47	-96	-49	-102.5
MM011	Ceramic bricks and similar articles:							
	Exports .....	23	26	46	39	43	4	9.2
	Imports .....	34	38	50	67	94	27	40.3
	Trade balance .....	-12	-12	-4	-27	-51	-23	-84.6
MM012	Ceramic floor and wall tiles:							
	Exports .....	28	27	27	31	37	6	18.7
	Imports .....	1,290	1,430	1,631	1,800	1,919	119	6.6
	Trade balance .....	-1,262	-1,403	-1,604	-1,768	-1,881	-113	-6.4

See footnote(s) at end of table.

**TABLE MM-20** Minerals and metals : U.S. trade for industry/commodity groups and subgroups, 2002–06<sup>a</sup>—Continued

USITC code <sup>b</sup>	Industry/commodity group	2002	2003	2004	2005	2006	Change, 2006 from 2005	
							Absolute	Percent
<i>Million dollars</i>								
MM013	Ceramic household articles:							
	Exports .....	83	88	107	104	99	-4	-4.2
	Imports .....	1,691	1,757	1,683	1,687	1,737	50	3.0
	Trade balance .....	-1,608	-1,669	-1,577	-1,583	-1,638	-55	-3.5
MM014	Flat glass:							
	Exports .....	1,694	1,747	1,882	1,987	2,204	217	10.9
	Imports .....	1,553	1,699	1,959	2,041	2,143	103	5.0
	Trade balance .....	140	49	-77	-53	61	114	( <sup>d</sup> )
MM015	Glass containers:							
	Exports .....	165	161	185	180	180	( <sup>c</sup> )	0.1
	Imports .....	608	607	659	700	794	94	13.4
	Trade balance .....	-443	-446	-474	-520	-614	-93	-18.0
MM016	Household glassware:							
	Exports .....	177	165	183	183	205	22	11.9
	Imports .....	888	919	947	908	895	-14	-1.5
	Trade balance .....	-711	-753	-764	-725	-689	35	4.9
MM017	Miscellaneous glass products:							
	Exports .....	729	748	812	702	866	164	23.4
	Imports .....	653	701	822	806	916	111	13.7
	Trade balance .....	76	46	-10	-104	-51	53	51.1
MM018	Fiberglass insulation products:							
	Exports .....	75	88	92	93	73	-20	-21.2
	Imports .....	131	155	214	249	272	23	9.2
	Trade balance .....	-56	-67	-122	-156	-198	-43	-27.4
MM019	Natural and synthetic gemstones:							
	Exports .....	1,331	469	1,129	2,765	4,087	1,321	47.8
	Imports .....	13,063	13,854	15,690	17,352	18,452	1,100	6.3
	Trade balance .....	-11,731	-13,386	-14,562	-14,587	-14,366	221	1.5
MM020	Precious metals and non-numismatic coins:							
	Exports .....	5,070	6,299	6,204	7,522	13,360	5,839	77.6
	Imports .....	6,263	6,759	9,055	10,029	14,232	4,203	41.9
	Trade balance .....	-1,193	-460	-2,851	-2,507	-872	1,635	65.2
MM020A	Unrefined and refined gold:							
	Exports .....	2,639	4,130	3,465	4,636	7,171	2,536	54.7
	Imports .....	2,143	2,689	3,680	4,112	5,029	918	22.3
	Trade balance .....	496	1,441	-215	524	2,142	1,618	308.9

See footnote(s) at end of table.

**TABLE MM-20** Minerals and metals : U.S. trade for industry/commodity groups and subgroups, 2002–06<sup>a</sup>—Continued

USITC code <sup>b</sup>	Industry/commodity group	2002	2003	2004	2005	2006	Change, 2006 from 2005	
							Absolute	Percent
<i>Million dollars</i>								
MM021	Primary iron products:							
	Exports .....	7	11	10	12	12	-1	-5.0
	Imports .....	729	815	1,898	2,033	2,227	194	9.5
	Trade balance .....	-722	-804	-1,887	-2,021	-2,215	-194	-9.6
MM022	Ferroalloys:							
	Exports .....	50	51	81	162	146	-15	-9.5
	Imports .....	713	899	1,885	1,834	1,954	119	6.5
	Trade balance .....	-663	-848	-1,805	-1,673	-1,807	-135	-8.1
MM023	Iron and steel waste and scrap:							
	Exports .....	1,307	1,960	2,923	3,451	4,256	805	23.3
	Imports .....	397	518	1,244	921	1,255	334	36.2
	Trade balance .....	911	1,442	1,680	2,529	3,001	471	18.6
MM024	Abrasive and ferrous products:							
	Exports .....	445	466	543	597	621	24	4.0
	Imports .....	746	769	889	984	1,048	63	6.4
	Trade balance .....	-301	-304	-346	-387	-427	-39	-10.2
MM024A	Abrasive products:							
	Exports .....	284	310	345	390	417	27	7.0
	Imports .....	505	540	631	658	712	54	8.2
	Trade balance .....	-222	-230	-286	-268	-295	-27	-10.0
MM025	Steel mill products:							
	Exports .....	4,533	5,525	7,015	9,331	10,479	1,148	12.3
	Imports .....	12,203	10,499	21,559	23,534	31,500	7,966	33.8
	Trade balance .....	-7,670	-4,974	-14,544	-14,203	-21,020	-6,818	-48.0
MM025A	Ingots, blooms, billets, and slabs of carbon and alloy steels:							
	Exports .....	55	121	169	171	163	-7	-4.3
	Imports .....	1,601	1,078	2,700	2,944	3,836	892	30.3
	Trade balance .....	-1,546	-957	-2,531	-2,774	-3,673	-899	-32.4
MM025B	Plates, sheets, and strips of carbon and alloy steels:							
	Exports .....	1,799	2,476	2,853	4,045	4,137	92	2.3
	Imports .....	3,860	3,028	7,406	6,962	10,510	3,548	51.0
	Trade balance .....	-2,062	-552	-4,554	-2,917	-6,373	-3,456	-118.5

See footnote(s) at end of table.

**TABLE MM-20** Minerals and metals : U.S. trade for industry/commodity groups and subgroups, 2002–06<sup>a</sup>—*Continued*

USITC code <sup>b</sup>	Industry/commodity group	2002	2003	2004	2005	2006	Change, 2006 from 2005	
							Absolute	Percent
<i>Million dollars</i>								
MM025C	Bars, rods, and light shapes of carbon and alloy steels:							
	Exports .....	415	479	697	837	999	162	19.3
	Imports .....	1,928	1,669	3,769	3,327	4,043	716	21.5
	Trade balance .....	-1,513	-1,190	-3,072	-2,490	-3,044	-554	-22.3
MM025D	Angles, shapes, and sections of carbon and alloy steels:							
	Exports .....	154	217	372	467	603	135	29.0
	Imports .....	338	286	448	512	769	257	50.2
	Trade balance .....	-184	-69	-76	-45	-166	-122	-273.0
MM025E	Wire of carbon and alloy steels:							
	Exports .....	159	172	275	226	243	17	7.4
	Imports .....	467	463	731	743	782	39	5.3
	Trade balance .....	-308	-291	-456	-517	-540	-22	-4.3
MM025F	Ingots, blooms, billets, and slabs of stainless steels:							
	Exports .....	59	27	46	41	60	19	45.4
	Imports .....	306	242	388	407	411	4	0.9
	Trade balance .....	-247	-214	-342	-366	-351	15	4.1
MM025G	Plates, sheets, and strips of stainless steels:							
	Exports .....	410	575	632	853	919	66	7.7
	Imports .....	553	624	1,139	1,206	1,768	562	46.6
	Trade balance .....	-142	-49	-507	-354	-849	-496	-140.2
MM025H	Bars, rods, and light shapes of stainless steels:							
	Exports .....	82	89	131	165	252	87	53.0
	Imports .....	284	215	378	572	588	16	2.8
	Trade balance .....	-202	-126	-247	-407	-336	71	17.5
MM025I	Angles, shapes, and sections of stainless steels:							
	Exports .....	6	5	7	12	15	3	24.0
	Imports .....	12	9	16	18	31	13	75.5
	Trade balance .....	-6	-3	-9	-6	-16	-10	-185.2
MM025J	Wire of stainless steels:							
	Exports .....	67	52	56	44	52	8	17.4
	Imports .....	92	96	143	174	209	35	20.1
	Trade balance .....	-25	-44	-87	-130	-157	-27	-21.1

See footnote(s) at end of table.

**TABLE MM-20** Minerals and metals : U.S. trade for industry/commodity groups and subgroups, 2002–06<sup>a</sup>—Continued

USITC code <sup>b</sup>	Industry/commodity group	2002	2003	2004	2005	2006	Change, 2006 from 2005	
							Absolute	Percent
<i>Million dollars</i>								
MM025K	Rails and accessories of carbon and alloy steels:							
	Exports .....	73	67	104	134	169	35	26.4
	Imports .....	167	163	221	286	374	88	30.9
	Trade balance .....	-93	-96	-117	-152	-205	-53	-34.9
MM025L	Pipes and tubes of carbon and alloy steels:							
	Exports .....	1,016	977	1,360	1,904	2,347	443	23.3
	Imports .....	2,136	2,098	3,483	5,259	6,953	1,694	32.2
	Trade balance .....	-1,120	-1,120	-2,123	-3,354	-4,605	-1,251	-37.3
MM025M	Pipes and tubes of stainless steels:							
	Exports .....	118	148	160	232	282	50	21.6
	Imports .....	274	309	465	657	821	163	24.9
	Trade balance .....	-156	-161	-305	-425	-538	-113	-26.6
MM025N	Tool steels:							
	Exports .....	118	119	153	200	239	38	19.2
	Imports .....	184	220	271	466	405	-61	-13.1
	Trade balance .....	-65	-101	-118	-266	-166	100	37.5
MM026	Steel pipe and tube fittings and certain cast products:							
	Exports .....	669	705	900	1,017	1,277	260	25.6
	Imports .....	669	609	838	1,052	1,307	255	24.2
	Trade balance .....	(°)	95	62	-35	-30	5	15.5
MM027	Fabricated structurals:							
	Exports .....	166	160	203	278	376	98	35.1
	Imports .....	627	501	508	776	1,176	399	51.5
	Trade balance .....	-460	-341	-305	-498	-800	-302	-60.6
MM028	Metal construction components:							
	Exports .....	497	561	675	773	970	196	25.4
	Imports .....	1,135	1,212	1,501	1,692	2,074	382	22.6
	Trade balance .....	-638	-652	-826	-918	-1,104	-186	-20.3
MM029	Metallic containers:							
	Exports .....	661	616	716	904	1,088	184	20.4
	Imports .....	645	660	760	828	898	70	8.5
	Trade balance .....	16	-45	-44	76	190	114	149.7
MM030	Wire products of base metal:							
	Exports .....	732	760	853	966	1,104	138	14.3
	Imports .....	1,416	1,591	2,191	2,473	2,538	65	2.6
	Trade balance .....	-684	-831	-1,338	-1,507	-1,434	73	4.9

See footnote(s) at end of table.

**TABLE MM-20** Minerals and metals : U.S. trade for industry/commodity groups and subgroups, 2002–06<sup>a</sup>—Continued

USITC code <sup>b</sup>	Industry/commodity group	2002	2003	2004	2005	2006	Change, 2006 from 2005	
							Absolute	Percent
<i>Million dollars</i>								
MM031	Miscellaneous products of base metal:							
	Exports .....	5,283	5,227	5,255	5,893	6,865	972	16.5
	Imports .....	7,773	8,403	10,163	11,619	12,852	1,234	10.6
	Trade balance .....	-2,491	-3,176	-4,908	-5,726	-5,987	-262	-4.6
MM032	Industrial fasteners of base metal:							
	Exports .....	1,496	1,520	1,672	1,894	2,218	324	17.1
	Imports .....	2,085	2,348	2,977	3,443	3,684	241	7.0
	Trade balance .....	-589	-828	-1,305	-1,548	-1,466	82	5.3
MM033	Cooking and kitchen ware:							
	Exports .....	201	199	198	204	225	21	10.4
	Imports .....	1,933	2,070	2,170	2,431	2,581	150	6.2
	Trade balance .....	-1,732	-1,871	-1,972	-2,227	-2,355	-129	-5.8
MM034	Metal and ceramic sanitary ware:							
	Exports .....	134	142	159	162	180	19	11.5
	Imports .....	742	863	1,062	1,230	1,371	140	11.4
	Trade balance .....	-608	-721	-903	-1,069	-1,190	-122	-11.4
MM035	Construction castings and other cast-iron articles:							
	Exports .....	25	23	30	39	48	8	21.6
	Imports .....	112	124	180	217	223	6	2.8
	Trade balance .....	-87	-101	-151	-177	-175	2	1.4
MM036	Copper and related articles:							
	Exports .....	1,744	2,086	3,006	3,405	6,052	2,647	77.7
	Imports .....	3,715	3,893	5,565	7,766	13,803	6,037	77.7
	Trade balance .....	-1,972	-1,807	-2,559	-4,360	-7,751	-3,390	-77.7
MM036A	Unrefined and refined copper:							
	Exports .....	92	214	339	157	255	98	62.3
	Imports .....	1,740	1,854	2,411	3,659	7,093	3,434	93.9
	Trade balance .....	-1,648	-1,640	-2,071	-3,501	-6,838	-3,336	-95.3
MM036B	Copper alloy plate, sheet, and strip:							
	Exports .....	117	144	198	275	284	8	3.1
	Imports .....	118	104	176	168	252	84	49.8
	Trade balance .....	-1	40	22	107	32	-75	-70.3
MM037	Unwrought aluminum:							
	Exports .....	950	1,000	1,397	2,087	3,508	1,421	68.1
	Imports .....	4,774	5,000	6,837	8,153	10,317	2,163	26.5
	Trade balance .....	-3,824	-3,999	-5,440	-6,067	-6,809	-742	-12.2

See footnote(s) at end of table.



**TABLE MM-20** Minerals and metals : U.S. trade for industry/commodity groups and subgroups, 2002–06<sup>a</sup>—Continued

USITC code <sup>b</sup>	Industry/commodity group	2002	2003	2004	2005	2006	Change, 2006 from 2005	
							Absolute	Percent
<i>Million dollars</i>								
MM037A	Primary and secondary aluminum:							
	Exports .....	431	376	608	716	1,004	288	40.2
	Imports .....	4,188	4,401	6,001	7,199	9,114	1,915	26.6
	Trade balance .....	-3,757	-4,025	-5,393	-6,483	-8,110	-1,627	-25.1
MM038	Aluminum mill products:							
	Exports .....	2,519	2,564	3,171	3,757	4,592	835	22.2
	Imports .....	2,516	2,768	3,512	4,696	5,768	1,072	22.8
	Trade balance .....	3	-203	-342	-938	-1,176	-237	-25.3
MM038A	Aluminum bars, rods, and profiles:							
	Exports .....	226	243	304	417	553	136	32.7
	Imports .....	417	435	581	774	1,049	275	35.5
	Trade balance .....	-191	-192	-277	-357	-496	-139	-38.8
MM038B	Aluminum wire:							
	Exports .....	77	80	97	115	148	32	28.0
	Imports .....	190	269	359	432	571	139	32.2
	Trade balance .....	-114	-189	-263	-316	-423	-107	-33.7
MM038C	Aluminum plate, sheet, and strip:							
	Exports .....	1,652	1,655	2,077	2,489	3,025	536	21.5
	Imports .....	1,331	1,411	1,817	2,568	3,079	511	19.9
	Trade balance .....	321	244	260	-79	-54	25	31.9
MM038D	Aluminum foil:							
	Exports .....	319	338	403	442	538	96	21.7
	Imports .....	468	500	565	715	822	107	15.0
	Trade balance .....	-150	-162	-163	-273	-284	-11	-4.1
MM038E	Aluminum tubes, pipes, and fittings:							
	Exports .....	205	198	237	247	287	40	16.2
	Imports .....	95	134	171	181	216	35	19.5
	Trade balance .....	111	64	66	66	71	5	7.4
MM039	Lead and related articles:							
	Exports .....	68	117	108	110	137	27	24.5
	Imports .....	125	113	203	335	451	116	34.6
	Trade balance .....	-57	5	-95	-226	-315	-89	-39.5
MM039A	Refined lead:							
	Exports .....	14	48	38	35	52	18	51.1
	Imports .....	82	65	128	242	322	81	33.4
	Trade balance .....	-68	-18	-90	-207	-270	-63	-30.5

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See footnote(s) at end of table.

**TABLE MM-20** Minerals and metals : U.S. trade for industry/commodity groups and subgroups, 2002–06<sup>a</sup>—Continued

USITC code <sup>b</sup>	Industry/commodity group	2002	2003	2004	2005	2006	Change, 2006 from 2005	
							Absolute	Percent
<i>Million dollars</i>								
MM040	Zinc and related articles:							
	Exports .....	84	94	139	148	246	98	66.5
	Imports .....	908	845	1,135	1,139	2,524	1,385	121.6
	Trade balance .....	-825	-750	-996	-991	-2,278	-1,286	-129.8
MM040A	Unwrought zinc:							
	Exports .....	1	2	5	1	4	2	153.6
	Imports .....	731	676	947	920	2,181	1,261	137.1
	Trade balance .....	-730	-674	-941	-918	-2,177	-1,258	-137.0
MM041	Certain base metals and chemical elements:							
	Exports .....	1,498	1,571	1,913	2,882	3,792	910	31.6
	Imports .....	1,952	2,248	3,825	4,417	5,924	1,507	34.1
	Trade balance .....	-454	-676	-1,912	-1,535	-2,131	-597	-38.9
MM041A	Titanium ingot:							
	Exports .....	12	11	14	33	41	9	26.7
	Imports .....	13	7	15	39	59	20	52.1
	Trade balance .....	-1	4	( <sup>c</sup> )	-6	-18	-11	-188.6
MM042	Nonpowered handtools:							
	Exports .....	2,038	2,109	2,361	2,508	2,880	372	14.8
	Imports .....	3,284	3,652	4,136	4,226	4,770	544	12.9
	Trade balance .....	-1,246	-1,543	-1,776	-1,717	-1,889	-172	-10.0
MM043	Certain cutlery, sewing implements, and related products:							
	Exports .....	551	550	553	592	592	( <sup>c</sup> )	( <sup>e</sup> )
	Imports .....	912	1,053	1,133	1,243	1,358	115	9.2
	Trade balance .....	-361	-503	-580	-651	-765	-114	-17.6
MM044	Table flatware and related products:							
	Exports .....	29	22	24	37	35	-2	-4.2
	Imports .....	478	484	518	563	572	9	1.6
	Trade balance .....	-450	-462	-494	-526	-536	-11	-2.0

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See footnote(s) at end of table.

**TABLE MM-20** Minerals and metals : U.S. trade for industry/commodity groups and subgroups, 2002–06<sup>a</sup>—*Continued*

USITC code <sup>b</sup>	Industry/commodity group	2002	2003	2004	2005	2006	Change, 2006 from 2005	
							Absolute	Percent
<i>Million dollars</i>								
MM045	Certain builders' hardware:							
	Exports .....	907	911	982	1,035	1,052	16	1.6
	Imports .....	2,197	2,405	3,063	3,593	4,155	562	15.6
	Trade balance .....	-1,289	-1,494	-2,080	-2,558	-3,103	-545	-21.3

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

Note.—Calculations based on unrounded data.

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

<sup>b</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>c</sup>Less than \$500,000.

<sup>d</sup>Not meaningful for purposes of comparison.

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

**TABLE MM-21** Minerals and metals sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2002–06

USITC code	Industry/commodity group	2002	2003	2004	2005	2006	Percent change, 2006 from 2005		
MM001	Clays and related mineral products:								
		Number of establishments	240	240	240	220	220	0.0	
		Employees (thousands)	6.0	6.0	6.0	6.0	6.0	0.0	
		Capacity utilization (percent)	(a)	(a)	(a)	(a)	(a)	(a)	
		U.S. shipments (million dollars)	1,580	1,660	1,680	1,650	1,650	0.0	
		U.S. exports (million dollars)	941	986	1,069	1,127	1,236	9.7	
		U.S. imports (million dollars)	158	180	210	231	281	21.7	
		Apparent U.S. consumption (million dollars)	798	854	821	754	695	-7.9	
		Trade balance (million dollars)	782	806	859	896	955	6.6	
		Ratio of imports to consumption (percent)	19.9	21.1	25.6	30.7	40.5	32.0	
		Ratio of exports to shipments (percent)	59.5	59.4	63.6	68.3	74.9	9.7	
	MM003	Iron ores and concentrates:							
			Number of establishments	10	10	10	10	10	0.0
			Employees (thousands)	5.0	5.0	4.0	4.0	4.0	0.0
			Capacity utilization (percent)	93	87	96	96	93	-3.1
		U.S. shipments (million dollars)	1,900	1,700	2,200	2,700	4,100	51.9	
		U.S. exports (million dollars)	249	248	334	584	636	8.9	
		U.S. imports (million dollars)	313	328	370	532	610	14.8	
		Apparent U.S. consumption (million dollars)	1,964	1,780	2,236	2,648	4,075	53.9	
		Trade balance (million dollars)	-64	-80	-36	52	25	-51.5	
		Ratio of imports to consumption (percent)	15.9	18.4	16.6	20.1	15.0	-25.4	
	Ratio of exports to shipments (percent)	13.1	14.6	15.2	21.6	15.5	-28.3		
MM004	Copper ores and concentrates:								
		Number of establishments	22	22	22	24	27	12.5	
		Employees (thousands)	7.0	6.8	7.0	7.3	7.2	-1.4	
		Capacity utilization (percent)	72.4	71.8	73.9	71.1	73.3	3.1	
		U.S. shipments (million dollars)	1,422	1,594	2,660	3,411	6,822	100.0	
		U.S. exports (million dollars)	79	73	134	363	770	112.4	
		U.S. imports (million dollars)	105	18	25	(b)	(b)	-58.4	
		Apparent U.S. consumption (million dollars)	1,448	1,539	2,551	3,049	6,052	98.5	
		Trade balance (million dollars)	-26	55	109	362	770	112.6	
		Ratio of imports to consumption (percent)	7.3	1.2	1.0	(c)	(c)	-79.0	
	Ratio of exports to shipments (percent)	5.5	4.6	5.0	10.6	11.3	6.2		
MM005A	Lead ores and concentrates:								
		Number of establishments	11	10	11	11	11	0.0	
		Employees (thousands)	0.9	0.8	0.9	0.9	0.9	0.0	
		Capacity utilization (percent)	84	86	89	88	91	3.4	
		U.S. shipments (million dollars)	350	393	426	417	509	22.1	
		U.S. exports (million dollars)	117	144	207	224	347	55.1	
		U.S. imports (million dollars)	(b)	0	0	(b)	0	(d)	
		Apparent U.S. consumption (million dollars)	233	249	219	193	162	-16.1	
		Trade balance (million dollars)	117	144	207	224	347	55.1	
		Ratio of imports to consumption (percent)	(c)	0.0	0.0	0.0	(c)	(d)	
	Ratio of exports to shipments (percent)	33.5	36.7	48.5	53.6	68.1	27.0		

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See footnote(s) at end of table.

**TABLE MM-21** Minerals and metals sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2002–06—*Continued*

USITC code	Industry/commodity group	2002	2003	2004	2005	2006	Percent change, 2006 from 2005
MM006A	Zinc ores and concentrates:						
	Number of establishments	12	10	10	10	11	10.0
	Employees (thousands)	1.5	1.0	0.6	0.6	0.7	16.7
	Capacity utilization (percent)	98	96	92	95	98	3.2
	U.S. shipments (million dollars)	352	364	453	561	1,228	118.9
	U.S. exports (million dollars)	328	340	417	483	1,068	121.3
	U.S. imports (million dollars)	<sup>(b)</sup>	60	99	<sup>(b)</sup>	183	56.5
	Apparent U.S. consumption (million dollars)	69	84	134	195	343	75.5
	Trade balance (million dollars)	283	280	319	366	885	142.1
	Ratio of imports to consumption (percent)	64.6	71.4	73.5	59.9	53.4	-10.8
	Ratio of exports to shipments (percent)	93.1	93.4	92.1	86.0	87.0	1.1
MM007A	Molybdenum ores and concentrates:						
	Number of establishments	6	6	7	8	9	12.5
	Employees (thousands)	0.5	0.5	0.6	0.9	0.9	0.0
	Capacity utilization (percent)	49	51	57	77	79	2.6
	U.S. shipments (million dollars)	267	390	1,231	4,101	3,201	-21.9
	U.S. exports (million dollars)	112	194	358	1,447	1,457	0.7
	U.S. imports (million dollars)	<sup>(b)</sup>	51	268	<sup>(b)</sup>	395	-47.1
	Apparent U.S. consumption (million dollars)	191	247	1,141	3,400	2,139	-37.1
	Trade balance (million dollars)	76	143	90	701	1,062	51.6
	Ratio of imports to consumption (percent)	19.2	20.8	23.5	21.9	18.5	-15.9
	Ratio of exports to shipments (percent)	42.1	49.8	29.1	35.3	45.5	29.0
MM008A	Gold ores and concentrates:						
	Number of establishments	180	178	181	181	182	0.6
	Employees (thousands)	9.0	9.0	9.0	9.0	9.0	0.0
	Capacity utilization (percent)	87	88	88	88	91	3.4
	U.S. shipments (million dollars)	2,376	2,590	2,715	2,929	4,041	38.0
	U.S. exports (million dollars)	10	13	16	16	40	142.9
	U.S. imports (million dollars)	<sup>(b)</sup>	22	19	<sup>(b)</sup>	13	-33.5
	Apparent U.S. consumption (million dollars)	2,394	2,599	2,718	2,932	4,014	36.9
	Trade balance (million dollars)	-18	-9	-3	-3	27	<sup>(d)</sup>
	Ratio of imports to consumption (percent)	1.2	0.8	0.7	0.6	0.3	-51.5
	Ratio of exports to shipments (percent)	0.4	0.5	0.6	0.6	1.0	76.1
MM008B	Silver ores and concentrates:						
	Number of establishments	11	11	11	11	11	0.0
	Employees (thousands)	0.6	0.5	0.6	0.6	0.5	-16.7
	Capacity utilization (percent)	87	88	88	88	91	3.4
	U.S. shipments (million dollars)	140	136	187	203	286	40.9
	U.S. exports (million dollars)	57	16	2	2	4	73.8
	U.S. imports (million dollars)	<sup>(b)</sup>	1	2	<sup>(b)</sup>	0	-100.0
	Apparent U.S. consumption (million dollars)	96	121	187	201	282	40.3
	Trade balance (million dollars)	44	15	<sup>(2)</sup>	2	4	100.3
	Ratio of imports to consumption (percent)	13.7	1.1	0.9	0.2	0.0	-100.0
	Ratio of exports to shipments (percent)	41.0	12.0	0.8	1.2	1.5	23.4

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See footnote(s) at end of table.

**TABLE MM-21** Minerals and metals sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2002–06—*Continued*

USITC code	Industry/commodity group	2002	2003	2004	2005	2006	Percent change, 2006 from 2005
MM009A	Cement:						
	Number of establishments	116	116	114	113	113	0.0
	Employees (thousands)	16.0	17.0	16.0	16.0	16.0	0.0
	Capacity utilization (percent)	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>
	U.S. shipments (million dollars)	8,300	8,300	9,500	11,600	12,000	3.4
	U.S. exports (million dollars)	58	62	63	68	114	67.1
	U.S. imports (million dollars)	<sup>(b)</sup>	940	1,139	<sup>(b)</sup>	1,842	17.9
	Apparent U.S. consumption (million dollars)	9,181	9,179	10,576	13,094	13,728	4.8
	Trade balance (million dollars)	-881	-879	-1,076	-1,494	-1,728	-15.6
	Ratio of imports to consumption (percent)	10.2	10.2	10.8	11.9	13.4	12.4
	Ratio of exports to shipments (percent)	0.7	0.7	0.7	0.6	1.0	61.5
MM010	Industrial ceramics:						
	Number of establishments	190	190	190	190	190	0.0
	Employees (thousands)	11.0	10.0	10.0	10.0	10.0	0.0
	Capacity utilization (percent)	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>
	U.S. shipments (million dollars)	2,800	1,874	2,800	2,900	2,900	0.0
	U.S. exports (million dollars)	645	600	625	702	784	11.7
	U.S. imports (million dollars)	<sup>(b)</sup>	551	672	<sup>(b)</sup>	880	17.5
	Apparent U.S. consumption (million dollars)	2,652	1,825	2,848	2,947	2,996	1.6
	Trade balance (million dollars)	148	49	-48	-47	-96	-102.5
	Ratio of imports to consumption (percent)	18.7	30.2	23.6	25.4	29.4	15.5
	Ratio of exports to shipments (percent)	23.0	32.0	22.3	24.2	27.0	11.7
MM011	Ceramic bricks and similar articles:						
	Number of establishments	207	207	207	207	200	-3.4
	Employees (thousands)	14.0	14.0	14.0	14.0	14.0	0.0
	Capacity utilization (percent)	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>
	U.S. shipments (million dollars)	1,785	1,900	2,120	2,233	2,300	3.0
	U.S. exports (million dollars)	23	26	46	39	43	9.2
	U.S. imports (million dollars)	<sup>(b)</sup>	38	50	<sup>(b)</sup>	94	40.3
	Apparent U.S. consumption (million dollars)	1,797	1,912	2,124	2,260	2,351	4.0
	Trade balance (million dollars)	-12	-12	-4	-27	-51	-84.6
	Ratio of imports to consumption (percent)	1.9	2.0	2.4	2.9	4.0	34.9
	Ratio of exports to shipments (percent)	1.3	1.4	2.2	1.8	1.9	6.0
MM012	Ceramic floor and wall tiles:						
	Number of establishments	203	203	203	203	200	-1.5
	Employees (thousands)	7.0	7.0	7.0	7.0	7.0	0.0
	Capacity utilization (percent)	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>
	U.S. shipments (million dollars)	825	757	876	856	870	1.6
	U.S. exports (million dollars)	28	27	27	31	37	18.7
	U.S. imports (million dollars)	<sup>(b)</sup>	1,430	1,631	<sup>(b)</sup>	1,919	6.6
	Apparent U.S. consumption (million dollars)	2,087	2,160	2,480	2,624	2,751	4.8
	Trade balance (million dollars)	-1,262	-1,403	-1,604	-1,768	-1,881	-6.4
	Ratio of imports to consumption (percent)	61.8	66.2	65.8	68.6	69.7	1.7
	Ratio of exports to shipments (percent)	3.4	3.6	3.1	3.7	4.3	16.8

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See footnote(s) at end of table.

**TABLE MM-21** Minerals and metals sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2002–06—*Continued*

USITC code	Industry/commodity group	2002	2003	2004	2005	2006	Percent change, 2006 from 2005
MM013	Ceramic household articles:						
	Number of establishments	60	60	60	60	60	0.0
	Employees (thousands)	6.0	6.0	6.0	6.0	6.0	0.0
	Capacity utilization (percent)	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>
	U.S. shipments (million dollars)	328	323	352	360	350	-2.8
	U.S. exports (million dollars)	83	88	107	104	99	-4.2
	U.S. imports (million dollars)	<sup>(b)</sup>	1,757	1,683	<sup>(b)</sup>	1,737	3.0
	Apparent U.S. consumption (million dollars)	1,936	1,992	1,929	1,943	1,988	2.3
	Trade balance (million dollars)	-1,608	-1,669	-1,577	-1,583	-1,638	-3.5
	Ratio of imports to consumption (percent)	87.3	88.2	87.3	86.8	87.4	0.7
Ratio of exports to shipments (percent)	25.3	27.3	30.3	28.8	28.3	-1.5	
MM014	Flat glass:						
	Number of establishments	80	80	80	80	80	0.0
	Employees (thousands)	12.0	12.0	12.0	12.0	12.0	0.0
	Capacity utilization (percent)	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>
	U.S. shipments (million dollars)	2,691	2,803	2,800	3,200	3,650	14.1
	U.S. exports (million dollars)	1,694	1,747	1,882	1,987	2,204	10.9
	U.S. imports (million dollars)	<sup>(b)</sup>	1,699	1,959	<sup>(b)</sup>	2,143	5.0
	Apparent U.S. consumption (million dollars)	2,551	2,754	2,877	3,253	3,589	10.3
	Trade balance (million dollars)	140	49	-77	-53	61	<sup>(d)</sup>
	Ratio of imports to consumption (percent)	60.9	61.7	68.1	62.7	59.7	-4.8
Ratio of exports to shipments (percent)	62.9	62.3	67.2	62.1	60.4	-2.8	
MM015	Glass containers:						
	Number of establishments	61	61	60	60	60	0.0
	Employees (thousands)	16.0	16.0	16.0	15.0	15.0	0.0
	Capacity utilization (percent)	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>
	U.S. shipments (million dollars)	4,345	4,343	4,400	4,000	4,200	5.0
	U.S. exports (million dollars)	165	161	185	180	180	0.1
	U.S. imports (million dollars)	<sup>(b)</sup>	607	659	<sup>(b)</sup>	794	13.4
	Apparent U.S. consumption (million dollars)	4,788	4,789	4,874	4,520	4,814	6.5
	Trade balance (million dollars)	-443	-446	-474	-520	-614	-18.0
	Ratio of imports to consumption (percent)	12.7	12.7	13.5	15.5	16.5	6.5
Ratio of exports to shipments (percent)	3.8	3.7	4.2	4.5	4.3	-4.7	
MM016	Household glassware:						
	Number of establishments	220	200	180	180	180	0.0
	Employees (thousands)	10.0	10.0	10.0	10.0	10.0	0.0
	Capacity utilization (percent)	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>
	U.S. shipments (million dollars)	1,635	1,488	1,450	2,000	2,200	10.0
	U.S. exports (million dollars)	177	165	183	183	205	11.9
	U.S. imports (million dollars)	<sup>(b)</sup>	919	947	<sup>(b)</sup>	895	-1.5
	Apparent U.S. consumption (million dollars)	2,346	2,241	2,214	2,725	2,889	6.0
	Trade balance (million dollars)	-711	-753	-764	-725	-689	4.9
	Ratio of imports to consumption (percent)	37.9	41.0	42.8	33.3	31.0	-7.1
Ratio of exports to shipments (percent)	10.8	11.1	12.6	9.2	9.3	1.7	

**TABLE MM-21** Minerals and metals sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2002–06—*Continued*

USITC code	Industry/commodity group	2002	2003	2004	2005	2006	Percent change, 2006 from 2005
MM018	Fiberglass insulation products:						
	Number of establishments	298	298	(a)	(a)	(a)	(a)
	Employees (thousands)	18.0	18.0	(a)	(a)	(a)	(a)
	Capacity utilization (percent)	(a)	(a)	(a)	(a)	(a)	(a)
	U.S. shipments (million dollars)	4,400	4,400	4,500	4,500	4,525	0.6
	U.S. exports (million dollars)	75	88	92	93	73	-21.2
	U.S. imports (million dollars)	(b)	155	214	(b)	272	9.2
	Apparent U.S. consumption (million dollars)	4,456	4,467	4,622	4,656	4,723	1.5
	Trade balance (million dollars)	-56	-67	-122	-156	-198	-27.4
	Ratio of imports to consumption (percent)	2.9	3.5	4.6	5.3	5.7	7.7
	Ratio of exports to shipments (percent)	1.7	2.0	2.1	2.1	1.6	-21.6
MM019	Natural and synthetic gemstones:						
	Number of establishments	225	224	223	225	225	0.0
	Employees (thousands)	2.0	2.0	2.0	2.0	2.0	0.0
	Capacity utilization (percent)	(a)	(a)	(a)	(a)	(a)	(a)
	U.S. shipments (million dollars)	430	680	450	530	600	13.2
	U.S. exports (million dollars)	1,331	469	1,129	2,765	4,087	47.8
	U.S. imports (million dollars)	(b)	13,854	15,690	(b)	18,452	6.3
	Apparent U.S. consumption (million dollars)	12,161	14,066	15,012	15,117	14,966	-1.0
	Trade balance (million dollars)	-11,731	-13,386	-14,562	-14,587	-14,366	1.5
	Ratio of imports to consumption (percent)	<sup>e</sup> 107.4	98.5	<sup>e</sup> 104.5	<sup>e</sup> 114.8	<sup>e</sup> 123.3	7.4
	Ratio of exports to shipments (percent)	<sup>e</sup> 309.6	68.9	<sup>e</sup> 250.8	<sup>e</sup> 521.7	<sup>e</sup> 681.1	30.5
MM020A	Unrefined and refined gold:						
	Number of establishments	22	21	20	20	20	0.0
	Employees (thousands)	2.0	1.0	1.0	1.0	1.0	0.0
	Capacity utilization (percent)	67	81	65	70	71	1.4
	U.S. shipments (million dollars)	4,142	4,627	4,646	4,749	6,606	39.1
	U.S. exports (million dollars)	2,639	4,130	3,465	4,636	7,171	54.7
	U.S. imports (million dollars)	(b)	2,689	3,680	(b)	5,029	22.3
	Apparent U.S. consumption (million dollars)	3,646	3,186	4,861	4,225	4,464	5.7
	Trade balance (million dollars)	496	1,441	-215	524	2,142	308.9
	Ratio of imports to consumption (percent)	58.8	84.4	75.7	97.3	<sup>5</sup> 112.7	15.8
	Ratio of exports to shipments (percent)	63.7	89.3	74.6	97.6	<sup>5</sup> 108.6	11.2
MM021	Primary iron products:						
	Number of establishments	16	18	18	17	17	0.0
	Employees (thousands)	15.0	15.0	15.0	13.0	12.0	-7.7
	Capacity utilization (percent)	84	81	84	82	85	3.7
	U.S. shipments (million dollars)	5,000	6,400	9,500	10,700	10,600	-0.9
	U.S. exports (million dollars)	7	11	10	12	12	-5.0
	U.S. imports (million dollars)	(b)	815	1,898	(b)	2,227	9.5
	Apparent U.S. consumption (million dollars)	5,722	7,204	11,387	12,721	12,815	0.7
	Trade balance (million dollars)	-722	-804	-1,887	-2,021	-2,215	-9.6
	Ratio of imports to consumption (percent)	12.7	11.3	16.7	16.0	17.4	8.7
	Ratio of exports to shipments (percent)	0.1	0.2	0.1	0.1	0.1	-4.2

See footnote(s) at end of table.



**TABLE MM-21** Minerals and metals sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2002–06—*Continued*

USITC code	Industry/commodity group	2002	2003	2004	2005	2006	Percent change, 2006 from 2005
MM022	Ferroalloys:						
	Number of establishments	20	20	20	19	19	0.0
	Employees (thousands)	2.0	3.0	3.0	3.0	3.0	0.0
	Capacity utilization (percent)	<sup>(a)</sup>	70	90	90	90	0.0
	U.S. shipments (million dollars)	759	735	949	1,202	1,300	8.2
	U.S. exports (million dollars)	50	51	81	162	146	-9.5
	U.S. imports (million dollars)	<sup>(b)</sup>	899	1,885	<sup>(b)</sup>	1,954	6.5
	Apparent U.S. consumption (million dollars)	1,422	1,583	2,754	2,875	3,107	8.1
	Trade balance (million dollars)	-663	-848	-1,805	-1,673	-1,807	-8.1
	Ratio of imports to consumption (percent)	50.2	56.8	68.5	63.8	62.9	-1.5
	Ratio of exports to shipments (percent)	6.6	7.0	8.5	13.4	11.2	-16.3
MM023	Iron and steel waste and scrap:						
	Number of establishments	5,000	4,000	4,000	4,000	4,000	0.0
	Employees (thousands)	28.0	28.0	22.0	22.0	22.0	0.0
	Capacity utilization (percent)	75	77	80	80	80	0.0
	U.S. shipments (million dollars)	5,100	6,800	12,300	11,300	13,100	15.9
	U.S. exports (million dollars)	1,307	1,960	2,923	3,451	4,256	23.3
	U.S. imports (million dollars)	<sup>(b)</sup>	518	1,244	<sup>(b)</sup>	1,255	36.2
	Apparent U.S. consumption (million dollars)	4,189	5,358	10,620	8,771	10,099	15.1
	Trade balance (million dollars)	911	1,442	1,680	2,529	3,001	18.6
	Ratio of imports to consumption (percent)	9.5	9.7	11.7	10.5	12.4	18.3
	Ratio of exports to shipments (percent)	25.6	28.8	23.8	30.5	32.5	6.4
MM024A	Abrasive products:						
	Number of establishments	50	50	50	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>
	Employees (thousands)	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>
	Capacity utilization (percent)	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>
	U.S. shipments (million dollars)	3,299	3,377	3,477	3,500	3,400	-2.9
	U.S. exports (million dollars)	284	310	345	390	417	7.0
	U.S. imports (million dollars)	<sup>(b)</sup>	540	631	<sup>(b)</sup>	712	8.2
	Apparent U.S. consumption (million dollars)	3,521	3,607	3,763	3,768	3,695	-1.9
	Trade balance (million dollars)	-222	-230	-286	-268	-295	-10.0
	Ratio of imports to consumption (percent)	14.4	15.0	16.8	17.5	19.3	10.4
	Ratio of exports to shipments (percent)	8.6	9.2	9.9	11.1	12.3	10.1
MM025	Steel mill products:						
	Number of establishments	1,039	1,039	1,039	1,039	1,039	0.0
	Employees (thousands)	171.0	153.0	152.0	143.0	143.0	0.0
	Capacity utilization (percent)	83	83	82	85	85	0.0
	U.S. shipments (million dollars)	62,543	63,116	94,629	102,389	110,068	7.5
	U.S. exports (million dollars)	4,533	5,525	7,015	9,331	10,479	12.3
	U.S. imports (million dollars)	<sup>(b)</sup>	10,499	21,559	<sup>(b)</sup>	31,500	33.8
	Apparent U.S. consumption (million dollars)	70,213	68,090	109,173	116,592	131,088	12.4
	Trade balance (million dollars)	-7,670	-4,974	-14,544	-14,203	-21,020	-48.0
	Ratio of imports to consumption (percent)	17.4	15.4	19.7	20.2	24.0	19.0
	Ratio of exports to shipments (percent)	7.2	8.8	7.4	9.1	9.5	4.5

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See footnote(s) at end of table.

**TABLE MM-21** Minerals and metals sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2002–06—*Continued*

USITC code	Industry/commodity group	2002	2003	2004	2005	2006	Percent change, 2006 from 2005
MM026	Steel pipe and tube fittings and certain cast products:						
	Number of establishments	62	62	62	62	60	-3.2
	Employees (thousands)	12.0	12.0	11.0	11.0	11.0	0.0
	Capacity utilization (percent)	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>
	U.S. shipments (million dollars)	2,100	2,100	2,100	2,100	2,100	0.0
	U.S. exports (million dollars)	669	705	900	1,017	1,277	25.6
	U.S. imports (million dollars)	<sup>(b)</sup>	609	838	<sup>(b)</sup>	1,307	24.2
	Apparent U.S. consumption (million dollars)	2,100	2,005	2,038	2,135	2,130	-0.3
	Trade balance (million dollars)	<sup>(b)</sup>	95	62	-35	-30	15.5
	Ratio of imports to consumption (percent)	31.9	30.4	41.1	49.3	61.4	24.6
	Ratio of exports to shipments (percent)	31.8	33.6	42.8	48.4	60.8	25.6
MM027	Fabricated structurals:						
	Number of establishments	3,760	3,730	3,700	3,670	3,650	-0.5
	Employees (thousands)	106.0	100.0	99.0	100.0	100.0	0.0
	Capacity utilization (percent)	58	60	70	73	75	2.7
	U.S. shipments (million dollars)	17,560	17,540	18,280	17,530	18,770	7.1
	U.S. exports (million dollars)	166	160	203	278	376	35.1
	U.S. imports (million dollars)	<sup>(b)</sup>	501	508	<sup>(b)</sup>	1,176	51.5
	Apparent U.S. consumption (million dollars)	18,020	17,881	18,585	18,028	19,570	8.6
	Trade balance (million dollars)	-460	-341	-305	-498	-800	-60.6
	Ratio of imports to consumption (percent)	3.5	2.8	2.7	4.3	6.0	39.5
	Ratio of exports to shipments (percent)	0.9	0.9	1.1	1.6	2.0	26.2
MM028	Metal construction components:						
	Number of establishments	2,500	2,430	2,200	2,200	2,200	0.0
	Employees (thousands)	154.0	150.0	135.0	125.0	129.0	3.2
	Capacity utilization (percent)	70	68	65	70	74	5.7
	U.S. shipments (million dollars)	19,400	19,000	17,000	18,000	19,000	5.6
	U.S. exports (million dollars)	497	561	675	773	970	25.4
	U.S. imports (million dollars)	<sup>(b)</sup>	1,212	1,501	<sup>(b)</sup>	2,074	22.6
	Apparent U.S. consumption (million dollars)	20,038	19,652	17,826	18,918	20,104	6.3
	Trade balance (million dollars)	-638	-652	-826	-918	-1,104	-20.3
	Ratio of imports to consumption (percent)	5.7	6.2	8.4	8.9	10.3	15.4
	Ratio of exports to shipments (percent)	2.6	3.0	4.0	4.3	5.1	18.8
MM029	Metallic containers:						
	Number of establishments	1,288	1,288	1,288	1,288	1,288	0.0
	Employees (thousands)	69.0	66.0	66.0	64.0	62.0	-3.1
	Capacity utilization (percent)	71	71	69	73	73	0.0
	U.S. shipments (million dollars)	19,404	19,447	19,958	21,226	22,712	7.0
	U.S. exports (million dollars)	661	616	716	904	1,088	20.4
	U.S. imports (million dollars)	<sup>(b)</sup>	660	760	<sup>(b)</sup>	898	8.5
	Apparent U.S. consumption (million dollars)	19,388	19,492	20,002	21,150	22,522	6.5
	Trade balance (million dollars)	16	-45	-44	76	190	149.7
	Ratio of imports to consumption (percent)	3.3	3.4	3.8	3.9	4.0	1.9
	Ratio of exports to shipments (percent)	3.4	3.2	3.6	4.3	4.8	12.5

**TABLE MM-21** Minerals and metals sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2002–06—*Continued*

USITC code	Industry/commodity group	2002	2003	2004	2005	2006	Percent change, 2006 from 2005
MM030	Wire products of base metal:						
	Number of establishments	1,470	1,430	1,400	1,350	1,350	0.0
	Employees (thousands)	94.0	91.0	83.0	80.0	80.0	0.0
	Capacity utilization (percent)	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>
	U.S. shipments (million dollars)	17,000	16,500	15,000	15,000	16,000	6.7
	U.S. exports (million dollars)	732	760	853	966	1,104	14.3
	U.S. imports (million dollars)	<sup>(b)</sup>	1,591	2,191	<sup>(b)</sup>	2,538	2.6
	Apparent U.S. consumption (million dollars)	17,684	17,331	16,338	16,507	17,434	5.6
	Trade balance (million dollars)	-684	-831	-1,338	-1,507	-1,434	4.9
	Ratio of imports to consumption (percent)	8.0	9.2	13.4	15.0	14.6	-2.8
Ratio of exports to shipments (percent)	4.3	4.6	5.7	6.4	6.9	7.2	
MM032	Industrial fasteners of base metal:						
	Number of establishments	860	840	820	800	800	0.0
	Employees (thousands)	46.0	45.0	43.0	40.0	41.0	2.5
	Capacity utilization (percent)	73	71	68	70	74	5.7
	U.S. shipments (million dollars)	7,000	6,800	6,500	6,000	6,400	6.7
	U.S. exports (million dollars)	1,496	1,520	1,672	1,894	2,218	17.1
	U.S. imports (million dollars)	<sup>(b)</sup>	2,348	2,977	<sup>(b)</sup>	3,684	7.0
	Apparent U.S. consumption (million dollars)	7,589	7,628	7,805	7,548	7,866	4.2
	Trade balance (million dollars)	-589	-828	-1,305	-1,548	-1,466	5.3
	Ratio of imports to consumption (percent)	27.5	30.8	38.1	45.6	46.8	2.7
Ratio of exports to shipments (percent)	21.4	22.4	25.7	31.6	34.7	9.8	
MM033	Cooking and kitchen ware:						
	Number of establishments	88	88	88	88	87	-1.1
	Employees (thousands)	6.0	6.0	5.0	5.0	5.0	0.0
	Capacity utilization (percent)	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>
	U.S. shipments (million dollars)	1,500	1,500	1,500	2,500	2,525	1.0
	U.S. exports (million dollars)	201	199	198	204	225	10.4
	U.S. imports (million dollars)	<sup>(b)</sup>	2,070	2,170	<sup>(b)</sup>	2,581	6.2
	Apparent U.S. consumption (million dollars)	3,232	3,371	3,472	4,727	4,880	3.3
	Trade balance (million dollars)	-1,732	-1,871	-1,972	-2,227	-2,355	-5.8
	Ratio of imports to consumption (percent)	59.8	61.4	62.5	51.4	52.9	2.8
Ratio of exports to shipments (percent)	13.4	13.3	13.2	8.2	8.9	9.3	
MM034	Metal and ceramic sanitary ware:						
	Number of establishments	140	140	140	140	140	0.0
	Employees (thousands)	17.0	17.0	17.0	17.0	17.0	0.0
	Capacity utilization (percent)	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>
	U.S. shipments (million dollars)	2,700	2,700	2,700	2,700	2,700	0.0
	U.S. exports (million dollars)	134	142	159	162	180	11.5
	U.S. imports (million dollars)	<sup>(b)</sup>	863	1,062	<sup>(b)</sup>	1,371	11.4
	Apparent U.S. consumption (million dollars)	3,308	3,421	3,603	3,769	3,890	3.2
	Trade balance (million dollars)	-608	-721	-903	-1,069	-1,190	-11.4
	Ratio of imports to consumption (percent)	22.4	25.2	29.5	32.6	35.2	7.9
Ratio of exports to shipments (percent)	4.9	5.3	5.9	6.0	6.7	11.5	

See footnote(s) at end of table.

**TABLE MM-21** Minerals and metals sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2002–06—*Continued*

USITC code	Industry/commodity group	2002	2003	2004	2005	2006	Percent change, 2006 from 2005
MM035	Construction castings and other cast-iron articles:						
	Number of establishments	50	50	50	50	50	0.0
	Employees (thousands)	5.0	5.0	5.0	5.0	5.0	0.0
	Capacity utilization (percent)	85	85	85	85	85	0.0
	U.S. shipments (million dollars)	800	800	900	1,000	1,100	10.0
	U.S. exports (million dollars)	25	23	30	39	48	21.6
	U.S. imports (million dollars)	<sup>(b)</sup>	124	180	<sup>(b)</sup>	223	2.8
	Apparent U.S. consumption (million dollars)	887	901	1,051	1,177	1,275	8.3
	Trade balance (million dollars)	-87	-101	-151	-177	-175	1.4
	Ratio of imports to consumption (percent)	12.6	13.8	17.2	18.4	17.5	-5.1
	Ratio of exports to shipments (percent)	3.2	2.9	3.3	3.9	4.3	10.5
MM036A	Unrefined and refined copper:						
	Number of establishments	22	22	22	23	24	4.3
	Employees (thousands)	3.8	3.3	3.4	3.2	3.4	6.3
	Capacity utilization (percent)	62	54	54	51	53	3.9
	U.S. shipments (million dollars)	2,620	2,553	4,091	5,244	10,308	96.6
	U.S. exports (million dollars)	92	214	339	157	255	62.3
	U.S. imports (million dollars)	<sup>(b)</sup>	1,854	2,411	<sup>(b)</sup>	7,093	93.9
	Apparent U.S. consumption (million dollars)	4,268	4,193	6,162	8,745	17,146	96.1
	Trade balance (million dollars)	-1,648	-1,640	-2,071	-3,501	-6,838	-95.3
	Ratio of imports to consumption (percent)	40.8	44.2	39.1	41.8	41.4	-1.1
	Ratio of exports to shipments (percent)	3.5	8.4	8.3	3.0	2.5	-17.4
MM036B	Copper alloy plate, sheet, and strip:						
	Number of establishments	53	43	30	30	29	-3.3
	Employees (thousands)	6.5	4.2	4.2	4.3	4.4	2.3
	Capacity utilization (percent)	63	60	65	72	74	2.8
	U.S. shipments (million dollars)	791	802	1,211	1,355	1,728	27.5
	U.S. exports (million dollars)	117	144	198	275	284	3.1
	U.S. imports (million dollars)	<sup>(b)</sup>	104	176	<sup>(b)</sup>	252	49.8
	Apparent U.S. consumption (million dollars)	792	762	1,189	1,248	1,696	35.9
	Trade balance (million dollars)	-1	40	22	107	32	-70.3
	Ratio of imports to consumption (percent)	15.0	13.6	14.8	13.5	14.8	10.2
	Ratio of exports to shipments (percent)	14.8	17.9	16.3	20.3	16.4	-19.2
MM037A	Primary and secondary aluminum:						
	Number of establishments	100	98	96	92	92	0.0
	Employees (thousands)	21.0	21.0	20.0	22.0	22.0	0.0
	Capacity utilization (percent)	69	71	72	67	74	10.4
	U.S. shipments (million dollars)	5,589	5,730	5,700	6,984	7,200	3.1
	U.S. exports (million dollars)	431	376	608	716	1,004	40.2
	U.S. imports (million dollars)	<sup>(b)</sup>	4,401	6,001	<sup>(b)</sup>	9,114	26.6
	Apparent U.S. consumption (million dollars)	9,346	9,755	11,093	13,467	15,310	13.7
	Trade balance (million dollars)	-3,757	-4,025	-5,393	-6,483	-8,110	-25.1
	Ratio of imports to consumption (percent)	44.8	45.1	54.1	53.5	59.5	11.4
	Ratio of exports to shipments (percent)	7.7	6.6	10.7	10.2	13.9	36.0

**TABLE MM-21** Minerals and metals sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2002–06—*Continued*

USITC code	Industry/commodity group	2002	2003	2004	2005	2006	Percent change, 2006 from 2005
MM038	Aluminum mill products:						
	Number of establishments	372	381	383	385	380	-1.3
	Employees (thousands)	58.0	58.0	58.0	58.0	58.0	0.0
	Capacity utilization (percent)	80	81	79	82	79	-3.7
	U.S. shipments (million dollars)	17,960	18,320	18,565	21,907	1,900	-91.3
	U.S. exports (million dollars)	2,519	2,564	3,171	3,757	4,592	22.2
	U.S. imports (million dollars)	<sup>(b)</sup>	2,768	3,512	<sup>(b)</sup>	5,768	22.8
	Apparent U.S. consumption (million dollars)	17,957	18,523	18,907	22,845	3,076	-86.5
	Trade balance (million dollars)	3	-203	-342	-938	-1,176	-25.3
	Ratio of imports to consumption (percent)	14.0	14.9	18.6	20.6	<sup>e</sup> 187.5	812.4
	Ratio of exports to shipments (percent)	14.0	14.0	17.1	17.2	<sup>e</sup> 241.7	1,309.3
MM039A	Refined lead:						
	Number of establishments	26	25	24	23	23	0.0
	Employees (thousands)	1.9	1.9	1.8	1.8	1.9	5.6
	Capacity utilization (percent)	84	87	88	88	91	3.4
	U.S. shipments (million dollars)	1,280	1,318	1,516	1,712	2,133	24.6
	U.S. exports (million dollars)	14	48	38	35	52	51.1
	U.S. imports (million dollars)	<sup>(b)</sup>	65	128	<sup>(b)</sup>	322	33.4
	Apparent U.S. consumption (million dollars)	1,348	1,336	1,606	1,919	2,403	25.2
	Trade balance (million dollars)	-68	-18	-90	-207	-270	-30.5
	Ratio of imports to consumption (percent)	6.1	4.9	8.0	12.6	13.4	6.5
	Ratio of exports to shipments (percent)	1.1	3.6	2.5	2.0	2.4	21.2
MM040A	Unwrought zinc:						
	Number of establishments	15	14	14	14	14	0.0
	Employees (thousands)	2.4	1.6	1.0	1.0	1.0	0.0
	Capacity utilization (percent)	64	66	67	82	85	3.7
	U.S. shipments (million dollars)	251	271	354	457	863	88.8
	U.S. exports (million dollars)	1	2	5	1	4	153.6
	U.S. imports (million dollars)	<sup>(b)</sup>	676	947	<sup>(b)</sup>	2,181	137.1
	Apparent U.S. consumption (million dollars)	981	945	1,295	1,375	3,040	121.0
	Trade balance (million dollars)	-730	-674	-941	-918	-2,177	-137.0
	Ratio of imports to consumption (percent)	74.5	71.5	73.1	66.9	71.7	7.3
	Ratio of exports to shipments (percent)	0.5	0.6	1.5	0.3	0.4	34.3
MM041A	Titanium ingot:						
	Number of establishments	5	5	5	5	5	0.0
	Employees (thousands)	0.3	0.3	0.3	0.3	0.3	0.0
	Capacity utilization (percent)	45	41	48	50	50	0.0
	U.S. shipments (million dollars)	420	470	550	1,700	2,000	17.6
	U.S. exports (million dollars)	12	11	14	33	41	26.7
	U.S. imports (million dollars)	<sup>(b)</sup>	7	15	<sup>(b)</sup>	59	52.1
	Apparent U.S. consumption (million dollars)	421	466	550	1,706	2,018	18.3
	Trade balance (million dollars)	-1	4	<sup>(b)</sup>	-6	-18	-188.6
	Ratio of imports to consumption (percent)	3.1	1.4	2.7	2.3	2.9	28.6
	Ratio of exports to shipments (percent)	3.0	2.3	2.6	1.9	2.1	7.7

**TABLE MM-21** Minerals and metals sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2002–06—*Continued*

USITC code	Industry/commodity group	2002	2003	2004	2005	2006	Percent change, 2006 from 2005
MM042	Nonpowered handtools:						
	Number of establishments	900	850	700	600	600	0.0
	Employees (thousands)	106.0	93.0	89.0	87.0	85.0	-2.3
	Capacity utilization (percent)	53	65	69	68	68	0.0
	U.S. shipments (million dollars)	12,433	11,765	11,821	12,682	12,057	-4.9
	U.S. exports (million dollars)	2,038	2,109	2,361	2,508	2,880	14.8
	U.S. imports (million dollars)	<sup>(b)</sup>	3,652	4,136	<sup>(b)</sup>	4,770	12.9
	Apparent U.S. consumption (million dollars)	13,679	13,308	13,597	14,399	13,946	-3.1
	Trade balance (million dollars)	-1,246	-1,543	-1,776	-1,717	-1,889	-10.0
	Ratio of imports to consumption (percent)	24.0	27.4	30.4	29.3	34.2	16.5
	Ratio of exports to shipments (percent)	16.4	17.9	20.0	19.8	23.9	20.8
MM043	Certain cutlery, sewing implements, and related products:						
	Number of establishments	178	178	177	177	176	-0.6
	Employees (thousands)	9.0	9.0	9.0	9.0	9.0	0.0
	Capacity utilization (percent)	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>	<sup>(a)</sup>
	U.S. shipments (million dollars)	1,800	1,800	1,900	1,900	1,900	0.0
	U.S. exports (million dollars)	551	550	553	592	592	<sup>(c)</sup>
	U.S. imports (million dollars)	<sup>(b)</sup>	1,053	1,133	<sup>(b)</sup>	1,358	9.2
	Apparent U.S. consumption (million dollars)	2,161	2,303	2,480	2,551	2,665	4.5
	Trade balance (million dollars)	-361	-503	-580	-651	-765	-17.6
	Ratio of imports to consumption (percent)	42.2	45.7	45.7	48.7	50.9	4.5
	Ratio of exports to shipments (percent)	30.6	30.6	29.1	31.2	31.2	<sup>(c)</sup>
MM044	Table flatware and related products:						
	Number of establishments	5	4	4	4	4	0.0
	Employees (thousands)	1.0	1.0	1.0	1.0	1.0	0.0
	Capacity utilization (percent)	90	90	91	90	85	-5.6
	U.S. shipments (million dollars)	200	200	212	225	230	2.2
	U.S. exports (million dollars)	29	22	24	37	35	-4.2
	U.S. imports (million dollars)	<sup>(b)</sup>	484	518	<sup>(b)</sup>	572	1.6
	Apparent U.S. consumption (million dollars)	650	662	706	751	766	2.1
	Trade balance (million dollars)	-450	-462	-494	-526	-536	-2.0
	Ratio of imports to consumption (percent)	73.6	73.1	73.4	74.9	74.6	-0.5

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See footnote(s) at end of table.

**TABLE MM-21** Minerals and metals sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2002–06—*Continued*

USITC code	Industry/commodity group	2002	2003	2004	2005	2006	Percent change, 2006 from 2005
	Ratio of exports to shipments (percent) . . . . .	14.3	10.8	11.4	16.3	15.3	-6.3
MM045	Certain builders' hardware:						
	Number of establishments . . . . .	230	226	221	217	215	-0.9
	Employees (thousands) . . . . .	33.0	31.0	31.0	31.0	31.0	0.0
	Capacity utilization (percent) . . . . .	69	64	70	71	73	2.8
	U.S. shipments (million dollars) . . . . .	5,447	5,762	6,010	5,543	6,109	10.2
	U.S. exports (million dollars) . . . . .	907	911	982	1,035	1,052	1.6
	U.S. imports (million dollars) . . . . .	<sup>(b)</sup>	2,405	3,063	<sup>(b)</sup>	4,155	15.6
	Apparent U.S. consumption (million dollars) . . . . .	6,736	7,256	8,090	8,101	9,212	13.7
	Trade balance (million dollars) . . . . .	-1,289	-1,494	-2,080	-2,558	-3,103	-21.3
	Ratio of imports to consumption (percent) . . . . .	32.6	33.1	37.9	44.4	45.1	1.7
	Ratio of exports to shipments (percent) . . . . .	16.7	15.8	16.3	18.7	17.2	-7.8

*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.

*Note.*—Calculations based on unrounded data.

<sup>a</sup>Not available.

<sup>b</sup>Less than 500,000.

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

<sup>d</sup>Not meaningful.

<sup>e</sup>Inventory changes, for which data are not available, likely account for ratios that exceed 100 percent.