

# Minerals and Metals

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## Change from 2017 to 2018:

- **U.S. total exports of minerals and metals: Increased by \$9.8 billion (7.2 percent) to \$146.3 billion**
- **U.S. general imports of minerals and metals: Increased by \$14.7 billion (7.3 percent) to \$215.3 billion**

U.S. total exports of minerals and metals increased by \$9.8 billion to (7 percent) to \$146.3 billion in 2018.<sup>1</sup> The value of U.S. exports of minerals and metals increased by \$6.8 billion (6.3 percent) to \$115 billion, with the United Kingdom and Mexico accounting for the largest absolute increase in U.S. exports of these goods (table MM.1). However, increases in U.S. exports of minerals and metals to some countries were partially offset by a decrease in exports to China, as U.S. exports to China faced new regulations that became effective in 2018. The new rules restricted the types of scrap and waste metal products that could be imported into China.<sup>2</sup> For U.S. exports of these goods overall in 2018, the leading product increases were in precious metals and non-numismatic coins; copper and related articles; iron and steel waste and scrap; and certain base metals and chemical elements. These increases were partially offset by decreases in U.S. exports of steel mill products and natural and synthetic gemstones (table MM.2).

The value of U.S. imports of minerals and metals increased by \$14.7 billion (7.3 percent) to \$215.3 billion in 2018. China accounted for the largest part of this increase: U.S. imports of minerals and metals from China rose by \$3.9 billion (11.7 percent) from the previous year (table MM.1). The increases in imports of minerals and metals, by product, were led by higher imports of miscellaneous products of base metal, natural and synthetic gemstones, and certain base metals and chemical elements. In contrast, U.S. imports of unwrought aluminum declined in 2017–18.

Falling global demand, rising prices, and trade actions all reportedly contributed to shifts in U.S. trade in mineral and metals commodities in 2018 (for more information on 2018 trade actions, see the last chapter in this report, Special Topic: Section 232 and 301 Trade Actions in 2018).<sup>3</sup> Overall, U.S. demand for minerals and metals increased in 2018 due to downstream demand from the construction, automobile manufacturing, lithium-ion battery manufacturing, and mechanical equipment sectors.<sup>4</sup> As a result, prices for most mineral and metal commodities—including iron and steel, aluminum, and many base metals—were higher in 2018 than in 2017, and price increases accounted for a significant share of

<sup>1</sup> Unless otherwise noted, the export data used in this investigation are for domestic exports. For more information on trade terminology, please refer to USITC, “Special Topic: Trade Metrics,” *Shifts in U.S. Merchandise Trade, 2014, 2015*, [https://www.usitc.gov/research\\_and\\_analysis/trade\\_shifts\\_2014/trade\\_metrics.htm](https://www.usitc.gov/research_and_analysis/trade_shifts_2014/trade_metrics.htm).

<sup>2</sup> Bureau of International Recycling, “China Trade: National Sword 2018,” February 22, 2018.

<sup>3</sup> Rio Tinto, “Form 20-F,” March 4, 2019; Newmont Mining Corporation, “Form 10-K,” February 21, 2019; United States Steel Corporation, “Form 10-K,” February 15, 2019.

<sup>4</sup> U.S. Census Bureau, *Consumer Expenditure Survey* (accessed July 3, 2019).

the overall change in the value of traded goods.<sup>5</sup> In contrast, global manufacturing and production statistics indicate that production of these commodities contracted in 2018, contributing to the reduction in U.S. exports of certain minerals and metals. One important factor was the decline in global production of automobiles, a major end user of minerals and metals products; global automobile output decreased 1 percent in 2018.<sup>6</sup>

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<sup>5</sup> According to the Federal Reserve Bank of St. Louis, the producer price index for iron and steel increased by 12 percent, while the producer price index for primary ferrous metals increased 4 percent. USDOL, BLS, Producer Price Index by Commodity for Metals and Metal Products: Iron and Steel (accessed July 26, 2019); USDOL, BLS, Producer Price Index by Commodity Metals and Metal Products: Primary Nonferrous Metals (accessed July 26, 2019).

<sup>6</sup> OICA, 2017–2018 Production Statistics.

**Table MM.1** Minerals and metals: U.S. exports and general imports, by selected trading partners, 2014–18

Country/item	Million \$					Absolute change, 2017 to 2018	% change, 2017 to 2018
	2014	2015	2016	2017	2018		
<b>U.S. exports of domestic merchandise:</b>							
Canada	27,443	23,717	22,258	23,509	24,617	1,108	4.7
China	10,440	7,729	7,000	8,769	7,596	-1,172	-13.4
Mexico	20,896	20,327	18,324	18,972	20,689	1,717	9.0
India	2,314	4,029	3,129	3,877	4,351	474	12.2
Germany	3,821	3,639	3,427	4,159	4,727	569	13.7
United Kingdom	6,817	6,715	6,612	7,649	9,568	1,919	25.1
Japan	3,426	3,147	3,001	3,123	3,741	618	19.8
Switzerland	7,244	7,725	7,745	7,249	7,274	25	0.3
Israel	576	955	942	568	572	5	0.8
South Korea	3,331	2,881	2,426	2,501	3,001	500	20.0
All other	35,471	28,805	24,945	27,633	28,695	1,061	3.8
<b>Total domestic exports</b>	<b>121,780</b>	<b>109,667</b>	<b>99,807</b>	<b>108,008</b>	<b>114,833</b>	<b>6,824</b>	<b>6.3</b>
Foreign exports	31,130	26,000	28,873	28,439	31,441	3,002	10.6
<b>Total U.S. exports (domestic and foreign)</b>	<b>152,910</b>	<b>135,667</b>	<b>128,680</b>	<b>136,447</b>	<b>146,274</b>	<b>9,827</b>	<b>7.2</b>
<b>U.S. general imports:</b>							
Canada	33,324	29,763	28,785	31,581	32,830	1,249	4.0
China	31,039	32,041	30,281	32,990	36,854	3,865	11.7
Mexico	19,503	18,103	18,084	19,365	21,152	1,787	9.2
India	11,084	10,856	11,429	12,139	13,130	991	8.2
Germany	8,203	7,763	6,906	7,974	9,372	1,398	17.5
United Kingdom	3,835	3,084	2,989	2,974	3,194	220	7.4
Japan	7,401	6,758	6,234	6,354	6,702	348	5.5
Switzerland	2,051	1,671	4,803	1,689	1,703	14	0.8
Israel	9,962	9,002	7,734	7,810	8,309	500	6.4
South Korea	7,716	6,908	5,309	5,824	5,788	-36	-0.6
All other	71,383	63,315	60,997	71,882	76,251	4,369	6.1
<b>Total general imports</b>	<b>205,500</b>	<b>189,262</b>	<b>183,551</b>	<b>200,580</b>	<b>215,285</b>	<b>14,706</b>	<b>7.3</b>

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

Note: Import values are based on U.S. customs value; export values are based on free alongside ship value, U.S. port of export. Calculations are based on unrounded data. The countries are sorted by those with the largest total U.S. trade (U.S. general imports plus U.S. domestic exports) in these products in the most recent year.

## U.S. Exports

U.S. exports of mineral and metals increased by \$6.8 billion (6.3 percent) to \$115 billion in 2018 (table MM.2). The largest increases were in exports of precious metals and non-numismatic coins; copper and related articles; iron and steel waste and scrap; and certain base metals and chemical elements. The largest export decreases were in steel mill products and natural and synthetic gemstones.

**Table MM.2** Minerals and metals: Leading changes in U.S. exports and imports, 2014–18

Industry/commodity group (USITC code)	Million \$					Absolute change, 2017 to 2018	%, 2017 to 2018
	2014	2015	2016	2017	2018		
<b>U.S. domestic exports:</b>							
<b>Increases:</b>							
Precious metals and non- numismatic coins (MM020)	26,603	25,153	22,751	25,442	27,192	1,750	6.9
Copper and related articles (MM036)	7,620	6,202	5,586	6,356	7,602	1,245	19.6
Iron and steel waste and scrap (MM023)	6,167	4,020	3,550	4,863	5,908	1,045	21.5
Certain base metals and chemical elements (MM041)	4,370	4,253	3,999	4,320	5,003	682	15.8
<b>Decreases:</b>							
Steel mill products (MM025)	15,928	12,816	10,923	12,639	11,714	-925	-7.3
Natural and synthetic gemstones (MM019)	2,184	3,041	2,921	2,424	1,837	-587	-24.2
<b>All other</b>	58,909	54,182	50,079	51,964	55,577	3,614	7.0
<b>Total</b>	121,780	109,667	99,807	108,008	114,833	6,824	6.3
<b>U.S. general imports:</b>							
<b>Increases:</b>							
Miscellaneous products of base metal (MM031)	16,471	16,966	16,751	18,030	19,831	1,801	10.0
Natural and synthetic gemstones (MM019)	26,491	25,375	26,093	25,021	26,387	1,366	5.5
Certain base metals and chemical elements (MM041)	6,722	5,342	4,421	5,480	6,480	1,000	18.2
<b>Decreases:</b>							
Unwrought aluminum (MM037)	8,483	8,376	8,949	11,851	11,413	-438	-3.7
<b>All other</b>	147,333	133,203	127,337	140,198	151,175	10,977	7.8
<b>Total</b>	205,500	189,262	183,551	200,580	215,285	14,706	7.3

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

Note: Import values are based on U.S. customs value; export values are based on free alongside ship value, U.S. port of export. Calculations are based on unrounded data.

U.S. exports of precious metals and non-numismatic coins increased by \$1.7 billion (6.9 percent) to \$27.2 billion in 2018. Within this product group, gold bullion and silver waste and scrap led the overall rise in exports. U.S. exports of gold bullion were up by \$925 million (8 percent) to \$12.2 billion,<sup>7</sup> while

<sup>7</sup> There was a slight increase (of 0.9 percent) of the London Bullion Market Association's (LBMA's) average annual afternoon-fix price of gold, from \$1,257.38 per troy ounce in 2017 to \$1,269.17 per troy ounce in 2018. This was

silver waste and scrap exports were up by \$642 million (36 percent) to \$2.4 billion in 2018.<sup>8</sup> The precious-metal products that partly offset this increase were gold, in the forms of unrefined doré,<sup>9</sup> refined grains and nuggets,<sup>10</sup> and waste and scrap, exports of which together decreased by \$459 million (5 percent) to \$8.3 billion.

The United Kingdom, which is a long-established center for the refining, fabricating, trading, and price setting of precious metals, accounted for the largest part of the increase in U.S. exports of precious metals and non-numismatic coins, which rose by \$2.0 billion (36 percent) to \$7.4 billion in 2018.<sup>11</sup> Gold bullion accounted for the product group's largest U.S. domestic export increase to the United Kingdom, up by \$1.4 billion (30 percent) to \$6.1 billion. The increase in exports reflected increased demand for gold; London is the premier gold-trading center for both Europe and beyond. In 2018, several Eastern European, Eurasian Economic Union, and Middle Eastern central banks augmented their gold reserves by purchasing unwrought gold.<sup>12</sup> In addition, European gold-backed exchange-traded products recorded significant investment inflows, particularly in Germany and the United Kingdom. The inflows were driven by negative yields on eurozone sovereign debt, geopolitical uncertainty, and financial market volatility.<sup>13</sup>

U.S. exports of copper and related articles increased by \$1.2 billion (19.6 percent) in 2018. This trend was due to an increase in foreign demand for copper for electrical transmission applications and of downstream demand for electrical vehicles. A \$537 million (160 percent) increase in exports of refined copper cathodes and a \$396 million (25 percent) increase in exports of high-grade copper waste and scrap drove the overall increase in U.S. exports of copper and related products. The price of U.S.-produced cathodes increased 5 percent in 2018, while the volume of cathodes increased 249 percent.<sup>14</sup> U.S. exports of copper cathodes increased by \$246 million (333 percent) to China, by \$157 million (114 percent) to Mexico, and by \$136 million (126 percent) to Canada. Expanded Chinese production of electric vehicles drove the rise in Chinese demand for copper cathodes.<sup>15</sup> A battery-electric passenger vehicle requires between 3.7 and 10 times as much copper as a conventional automobile.<sup>16</sup>

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too small to notably impact the size of these shifts in value terms compared to quantity terms. LBMA, Precious Metals Prices database (accessed June 18, 2019).

<sup>8</sup> The decrease (of 7.5 percent) of the LBMA's average annual afternoon-fix price of silver, from \$17.04 per troy ounce in 2017 to \$15.75 per troy ounce in 2018, meant that the trade shift for silver was more significant in terms of value than quantity. LBMA, Precious Metals Prices database (accessed June 18, 2019).

<sup>9</sup> Doré is metallic gold produced by smelting gold ores and concentrates. The gold doré is melted down to undergo chlorination to remove the silver and base metals. It is further refined by electrolysis to produce refined gold pure enough to be cast into bullion bars or dropped through steel sieves into a cooling-water bath to produce semispherical grains and nuggets.

<sup>10</sup> Using refined gold and various refined base metals, in the form of grains and nuggets, allows for more precise alloying of molten gold than does a mixture consisting of melted-down gold bullion bars and base-metal ingots.

<sup>11</sup> LBMA, *Global Authority for Precious Metals*, 2019; LBMA and LPPM, *A Guide to the London Precious Metals Markets*, August 2008, 2–4.

<sup>12</sup> WGC, *2018 Annual Review*, February 25, 2019, 1, 11.

<sup>13</sup> WGC, "Market Update, European ETPs Reach Record Highs," April 2019, 1–3.

<sup>14</sup> Flanagan, "Copper," February 2019; USITC DataWeb/USDOC, HTS subheading 7304.11.0000 (accessed August 22, 2019).

<sup>15</sup> Sanderson, "China's Demand for Electric Vehicles Charges Copper," February 11, 2019.

<sup>16</sup> Copper Development Association, "Copper Drives Electric Vehicles" (accessed July 1, 2019).

U.S. exports of iron and steel waste and scrap rose by \$1 billion (21.5 percent) in 2018.<sup>17</sup> In general, declining U.S. scrap exports to China were more than offset by growing U.S. exports of scrap to the rest of the world. In July 2018, Chinese authorities implemented environmental regulations on recyclable materials that effectively prohibited imports of scrap and waste of iron and steel.<sup>18</sup> As a result, U.S. exports of these goods to China dropped by \$519 million (65 percent) in 2018. U.S. exporters adjusted by finding new markets, predominantly in Asia. Rising steel production in Asia and in developing countries elsewhere also fueled demand for U.S. ferrous scrap.<sup>19</sup> The largest increases in U.S. exports of scrap were to Taiwan (\$284 million), Malaysia (\$164 million), India (\$160 million), Vietnam (\$151 million), and Egypt (\$144 million). These nations import scrap and waste, process it, then export the processed metals to China.<sup>20</sup>

U.S. exports of certain base metals and chemical elements increased by \$682 million (15.8 percent) in 2018.<sup>21</sup> Similar to copper, the trend propelling this product group's increased exports was the growing market for electric vehicles whose batteries use nickel.<sup>22</sup> About 68 percent of the group's increase involved nickel products, exports of which increased by \$464 million (30 percent) from 2017 to 2018. In 2018, the quantity of U.S. exports of nickel by weight increased by 14,000 short tons (7 percent), while the annual average price of nickel increased \$2,704 per metric ton (26 percent) in the same period.<sup>23</sup>

The value of U.S. exports of steel mill products fell by \$925 million (7.3 percent) in 2018. The U.S. Department of Commerce's International Trade Administration noted that the decline likely reflected an appreciating U.S. dollar, higher prices for steel in the U.S. market, and additional duties imposed by trading partners on U.S. exports of steel mill products.<sup>24</sup> (For more information, see the Special Topic.) The difference between prices of domestically produced steel and world export prices increased from 26 percent in January 2018 to 73 percent in December 2018.<sup>25</sup> Executives of steel-consuming industries and policy researchers attribute the increased price gap mostly to trade disputes, including the imposition, under section 232 of the Trade Expansion Act of 1962, of duties of 25 percent ad valorem on steel imports into the United States.<sup>26</sup> With the higher U.S. prices, the U.S. market became more attractive to U.S. steel producers than foreign markets. In addition, additional duties on U.S. exports by most trading partners made U.S. steel less competitive in foreign markets.<sup>27</sup> Decreases in U.S. exports of

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<sup>17</sup> Products exported under HTS 7204. Ferrous scrap is the predominant input for steel made from electric arc furnaces and serves as a supplemental input for steel made in basic oxygen furnaces. European Steel Association, "Steel Recycling: Scrap Is a Valuable Raw Material" (accessed July 3, 2019).

<sup>18</sup> Stanway and Xu, "Update 1—China Bans Imports," April 19, 2018.

<sup>19</sup> Argus Media, "China's Steel Scrap Use Increases," December 26, 2018; World Steel Association, "World Crude Steel Production—Summary," January 25, 2019.

<sup>20</sup> Nguyen, "Malaysia Base Metals Firms," May 20, 2019.

<sup>21</sup> The product group of certain base metals and chemical elements includes most of the HTS codes from chapters 75, 80, and 81.

<sup>22</sup> Hertzke et al., "The Global Electric-vehicle Market," May 2018.

<sup>23</sup> IndexMundi, "Nickel Monthly Price" (accessed June 24, 2019).

<sup>24</sup> USDOC, ITA, *Steel Exports Report: United States*, March 2019.

<sup>25</sup> SteelBenchmarker, "Historical Prices" (accessed June 17, 2019).

<sup>26</sup> Ad valorem is a rate of duty expressed as a percentage of the appraised customs value of the imported good; the actual tariff may be levied in other terms, such as dollars per ton. Thibodeau, "Ford: US Steel Most Expensive," October 23, 2018; Perry, "Backfire Economics," October 24, 2018.

<sup>27</sup> SteelBenchmarker, "Historical Prices" (accessed June 17, 2019).

steel mill products to Canada and Mexico accounted for about two-thirds (67 percent) of the overall category's decrease.

The value of U.S. exports of natural and synthetic gemstones decreased for a third year in a row, by \$587 million (24.2 percent) to \$1.8 billion from 2017 to 2018. Leading this overall export decline were exports of worked (cut and polished) nonindustrial (gem-quality) diamonds,<sup>28</sup> down by \$518 million (30 percent) to \$1.2 billion,<sup>29</sup> and of worked rubies, sapphires, and emeralds, down by \$123 million (24 percent) to \$385 million. Worldwide trade in both diamonds and colored gemstones<sup>30</sup> was dampened by lower-than-anticipated retail and auction sales of gemstone-containing precious jewelry, especially in the second half of the year. This decline was attributed to economic uncertainties and trade tensions depressing Chinese and European consumer spending.<sup>31</sup>

## U.S. Imports

U.S. imports of minerals and metals increased by \$14.7 billion (7.3 percent) to \$215.3 billion in 2018 (table MM.2). The largest increases occurred in miscellaneous products of base metal; natural and synthetic gemstones; certain base metals and chemical elements; non-powered hand tools; industrial fasteners of base metal; and copper and related products. The largest decreases were in precious metals and non-numismatic coins, and wrought aluminum.

U.S. general imports of miscellaneous products of base metal increased \$1.8 billion (10.0 percent) to \$19.8 billion in 2018.<sup>32</sup> Unit value increases drove the increase in import values, with average unit prices increasing 7 percent in 2018. Over 60 percent of the increase is attributable to the articles of iron and steel imported under chapter 73 in the *Harmonized Tariff Schedule of the United States* (HTS). The single largest product increase involves a basket category of articles of iron or steel wire, which increased \$633 million (17 percent) to \$4.4 billion in 2018.

U.S. imports of natural and synthetic gemstones increased for a second year in a row, by \$1.4 billion (5.5 percent) to \$26.4 billion from 2017 to 2018. The rise in imports was in line with the continued overall growth in U.S. consumer demand for precious jewelry, as evidenced by retail sales levels,<sup>33</sup>

<sup>28</sup> The United States, lacking commercial mine production of gem-quality diamonds, did not record any exports of rough (unworked) nonindustrial diamonds during 2014–18.

<sup>29</sup> Both size categories for U.S. domestically exported worked nonindustrial diamonds recorded similar percentage declines in unit values in 2018, by \$23.71 per carat (24.2 percent) to \$112.80 per carat for diamonds weighing up to 0.5 carats and by \$22.13 per carat (24.2 percent) to \$4,094.85 per carat for diamonds weighing more than 0.5 carats in 2018. The share of higher-value diamonds weighing more than 0.5 carats across all sizes of worked nonindustrial diamonds exported rose from 10.2 percent in 2017 to 10.6 percent in 2018.

<sup>30</sup> "Colored gemstones" are precious and semiprecious gemstones other than diamonds.

<sup>31</sup> Rapaport News, "2H Slump Dents De Beers Sales Volume," January 24, 2019; Rapaport News, "Tourist Slump Damages Tiffany's Holiday," January 20, 2019; Freedman, "Four Trends from a Tough Year for Stocks," January 2, 2019; DeMarco, "Jewelry Sales for Christie's and Sotheby's," January 1, 2019.

<sup>32</sup> The group of miscellaneous products of base metal (MM031) is composed of products entering the United States under HTS chapters 73, 74, 76, 83, and 96.

<sup>33</sup> Rapaport News, "Tiffany Weathers Slow 4Q for Record Year," March 24, 2019; Rapaport News, "Jewelry a Top Seller at Macy's, J.C. Penney," February 28, 2019; Rapaport News, "Fine Jewelry a Bright Spot for Macy's," January 10, 2019.

despite lower-than-anticipated yearend retail sales.<sup>34</sup> Leading this overall import increase were larger (weighing more than 0.5 carats) worked nonindustrial diamonds, up by \$1.8 billion (8 percent) to \$21.7 billion. In 2018, the United States imported a greater portion of larger-size diamonds with higher unit values than in the previous year,<sup>35</sup> a trend noted worldwide.<sup>36</sup>

The largest increases in imports in this category were in imports of larger-size, worked nonindustrial diamonds from India.<sup>37</sup> India is among the world's lowest-cost, most technologically advanced, and most highly skilled diamond-processing centers, with access to a robust financial infrastructure.<sup>38</sup> About 85–90 percent of all rough diamonds (unworked or simply sawn, cleaved, or bruted) worldwide are cut and polished in India.<sup>39</sup> In addition, there was an increase in U.S. imports of diamonds of all types from South Africa, Israel, Russia, and China.<sup>40</sup> The overall increase in U.S. imports of natural and synthetic gemstones was partly offset by decreased imports from Hong Kong and Botswana. Imports from Hong Kong of larger-size, worked industrial diamonds were down by \$617 million (70 percent) to \$264 million, while imports of unworked nonindustrial diamonds from Botswana were down by \$302 million (40 percent) to \$459 million.<sup>41</sup>

The value of U.S. imports of certain base metals and chemical elements increased by \$1 billion (18.2 percent) to \$6.5 billion in 2018.<sup>42</sup> Nickel and cobalt accounted for 67 percent of the increase in 2018. In the same period, both products saw significantly increased prices—nickel and cobalt prices increased 22 and 29 percent, respectively.<sup>43</sup> In particular, analysts observed strong U.S. demand for cobalt and nickel due to rising battery demand (e.g., for electric vehicles), limited global production, and supply constraints.<sup>44</sup>

U.S. imports of unwrought aluminum decreased by \$438 million (3.7 percent) to \$11.4 billion in 2018. During that year, most of the imported unwrought aluminum entering the United States came from Canada. After the U.S. government imposed 10 percent section 232 duties on imports of aluminum in

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<sup>34</sup> Rapaport News, "Holiday Sales Growth Misses Expectations," February 17, 2019; Rapaport News, "Signet Holiday Revenues Disappoint," January 17, 2019; Rapaport News, "Holiday Jewelry Sales Rise 4%," December 27, 2018.

<sup>35</sup> For U.S. imports of worked nonindustrial diamonds weighing more than 0.5 carats, unit values increased by \$155.59 per carat (3.9 percent) to \$4,132.50 per carat in 2018. The share of these higher-value diamonds weighing more than 0.5 carats, across all sizes of worked nonindustrial diamonds imported, rose from 51.4 percent in 2017 to 53.2 percent in 2018.

<sup>36</sup> Freedman, "Graph Diamonds: The Year in 5 Telling Charts," January 3, 2019.

<sup>37</sup> U.S. imports of diamonds from India increased \$858 million (11.8 percent) to \$8.1 billion. AWDC and Bain, *The Global Diamond Report 2018*, December 2018, 12.

<sup>38</sup> Agarwal, Devgun, and Bhatnagar, "A Study on Problems Faced by Exporters of Gems," January 23, 2018; Sarine, "Go-To Retail: Diamond Manufacturers in India," April 11, 2019; AWDC, *Report to Society 2014–2018*, 12 (accessed June 24, 2019).

<sup>39</sup> A "bruted" diamond is one that has been rough shaped, but not yet faceted or polished. Sarine, "Go-To Retail: Diamond Manufacturers in India," April 11, 2019; Rapaport News, "India Strengthens Position in Diamond Cutting," December 12, 2018; AWDC, *Report to Society 2014–2018*, 12 (accessed June 26, 2019).

<sup>40</sup> USITC DataWeb/USDOC, HTS subheading 7102.39.00 (accessed August 22, 2019); AWDC and Bain, *The Global Diamond Report 2018*, December 2018, 12.

<sup>41</sup> USITC DataWeb/USDOC, HTS subheadings 7102.31.00 and 7102.39.00 (accessed August 22, 2019).

<sup>42</sup> The certain base metals and chemical elements subgroup (MM041) is mostly composed of products entering the United States under HTS numbers in chapters 75, 80, and 81.

<sup>43</sup> McRae, "Nickel," February 2019; Shedd, "Cobalt," February 2019.

<sup>44</sup> Desjardins, "Here Are the Raw Materials," October 17, 2016; DeCarlo and Matthews, "More Than a Pretty Color," February 2019.

March 2018, U.S. imports of aluminum fell by 1 percent on a volume basis.<sup>45</sup> The decline in the volume of imports contributed to higher U.S. prices, thereby spurring increased domestic production that further competed with imports.<sup>46</sup> Specifically, U.S. market spot prices of aluminum ingots were up 17 percent in 2018.<sup>47</sup> This increase in average import unit values for unwrought aluminum was the major reason that the value of imports declined just 4 percent (table MM.2).

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<sup>45</sup> Alcoa Corporation, "Form 10-K," February 25, 2019.

<sup>46</sup> Alcoa Corporation, "Form 10-K," February 25, 2019.

<sup>47</sup> Bray, "Aluminum," February 2019.

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