

SILVER

(Data in metric tons¹ of silver content, unless otherwise noted)

Domestic Production and Use: In 2001, U.S. mine production of silver was about 1,800 tons with an estimated value of \$290 million. Nevada was the largest producer, with more than 600 tons. Precious metal ores accounted for approximately one-half of domestic silver production; the other one-half was recovered as a byproduct from processing of copper, lead, and zinc ores. There were 22 principal refiners of commercial-grade silver with an estimated output of approximately 2,800 tons. About 30 fabricators accounted for more than 90% of the silver consumed in arts and industry. The remainder was consumed mostly by small companies and artisans. Aesthetic uses of silver for decorative articles, jewelry, tableware, and coinage were overshadowed by industrial and technical uses. Industrial and technical uses include photographic materials, electrical and electronic products, catalysts, brazing alloys, dental amalgam, and bearings.

Salient Statistics—United States:	1997	1998	1999	2000	2001^e
Production:					
Mine	2,180	2,060	1,950	1,860	1,800
Refinery:					
Primary	2,200	2,300	2,000	2,780	2,800
Secondary	1,360	1,700	1,500	1,680	1,700
Imports for consumption ²	2,540	3,330	2,660	3,810	2,900
Exports ²	2,980	2,250	481	279	470
Consumption, apparent ^e	4,980	5,300	5,500	6,300	5,800
Price, dollars per troy ounce ³	4.89	5.54	5.25	5.00	5.00
Stocks, yearend:					
Treasury Department ⁴	484	582	617	220	100
COMEX, CBT ⁵	3,430	2,360	2,360	2,920	2,900
National Defense Stockpile	1,220	1,030	778	458	200
Employment, mine and mill, ⁶ number	1,550	1,550	1,500	1,500	1,300
Net import reliance ⁷ as a percentage of apparent consumption ^e	E	43	39	43	44

Recycling: About 1,680 tons of silver was recovered from old and new scrap in 2000.

Import Sources² (1997-2000): Mexico, 38%; Canada, 37%; Peru, 8%; United Kingdom, 8%; and other, 9%.

Tariff: No duties are imposed on imports of unrefined silver or refined bullion.

Depletion Allowance: 15% (Domestic), 14% (Foreign).

Government Stockpile: The Defense Logistics Agency (DLA) delivered all of the remaining 467 tons of silver in the National Defense Stockpile to the U.S. Mint for use in its coinage program. Under an agreement with the U.S. Treasury Department, the metal will continue to be carried as DLA stocks until the metal is consumed by the Mint. The transfer marked the end of the silver stockpile era.

Stockpile Status—9-30-01⁸

Material	Uncommitted inventory	Committed inventory	Authorized for disposal	Disposal plan FY 2001	Disposals FY 2001
Silver	321	—	321	404	147

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Events, Trends, and Issues: Photographic applications account for about 28% of total silver demand, and digital imaging is considered to be a potential threat to this sector of the market. In contrast to the use of silver halide film in conventional photography, digital technology converts images directly into electronic form, thereby avoiding the need for silver. Silver halide pictures may also be scanned into electronic form, which necessitates the use of silver in taking and printing the picture, but eliminates the need for silver halide technology in further processing.

After maintaining a price range \$4.20 to \$4.30 per troy ounce for most of 2001, silver prices began to fall in the first week of August. The London fix on August 7 was \$4.14 per ounce, down \$0.12 from levels in July and down \$0.78 from levels in the first week of August 2000. The \$4.14 per ounce fix was the lowest in 8 years. Depressed prices were mostly responsible for the closing of the Sunshine Mine, ID, and reduced operations at the Lucky Friday Mine, ID. Silver production at Lucky Friday is expected to be only 109 tons in 2001 compared with 140 tons if the mine had continued normal production.

World Mine Production, Reserves, and Reserve Base:

	Mine production		Reserves ⁹	Reserve base ⁹
	2000	2001 ^e		
United States	1,860	1,800	30,000	75,000
Australia	1,720	2,060	33,000	37,000
Canada	1,246	1,200	35,000	47,000
Mexico	2,338	2,600	37,000	40,000
Peru	2,217	2,500	25,000	37,000
Other countries	8,230	8,160	120,000	190,000
World total (may be rounded)	17,700	18,300	280,000	430,000

World Resources: More than two-thirds of world silver resources are associated with copper, lead, and zinc deposits, often at great depths. The remainder is in vein deposits in which gold is the most valuable metallic component. Although most recent discoveries have been primarily gold and silver deposits, significant future reserves and resources are expected from major base metal discoveries that contain byproduct silver. Although the price of silver and improved technology may appear to increase the reserves and reserve base, the extraction of silver from these resources will be driven by demand for the primary base metals.

Substitutes: Aluminum and rhodium can be substituted for silver in mirrors and other reflecting surfaces. Tantalum can be used in place of silver for surgical plates, pins, and sutures. Stainless steel is an alternate material used widely in the manufacture of table flatware. Nonsilver batteries being developed may replace silver batteries in some applications. Silverless black and white film, xerography, and film with reduced silver content are alternatives to some uses of silver in photography.

^eEstimated. E Net exporter. — Zero.

¹One metric ton (1,000 kilograms) = 32,150.7 troy ounces.

²Refined bullion, plus silver content of ores, concentrates, precipitates, and doré; excludes coinage, waste, and scrap material.

³Handy & Harman quotations.

⁴Balance in U.S. Mint only.

⁵COMEX: Commodity Exchange Inc., New York. CBT: Chicago Board of Trade.

⁶Source: Mine Safety and Health Administration.

⁷Defined as imports - exports + adjustments for Government and industry stock changes.

⁸See Appendix B for definitions.

⁹Includes silver recoverable from base metal ores. See Appendix C for definitions.