## Annual Average Silver Price

 (Dollars per troy ounce)

## Significant events affecting silver prices since 1958

Huge U.S. Government silver holdings largely depleted
Silver Purchase Act and various other legislation repealed; U.S. Treasury authorized to print Federal Reserve Notes, which were not redeemable for silver, for circulating currency Silver eliminated from all U.S. coins except the half dollar, which has its silver content reduced from $90 \%$ to $40 \%$ Announcement by U.S. Government that all silver coins would be withdrawn from circulation Redemption of silver certificates for silver could only be made until June 24; thereafter, silver certificates would be exchanged for Federal Reserve Notes
Attempt to corner the silver market
U.S. Mint authorized to begin minting a silver bullion coin

Silver has been used for thousands of years as ornaments and utensils, for trade, and as the basis for many monetary systems. Of all the metals, pure silver has the whitest color, the highest optical reflectivity, and the highest thermal and
electrical conductivity. Also, silver halides are photosensitive. Owing to the above properties, silver has many industrial applications, such as in mirrors, electrical and electronic products, and photography, which is the largest single end use
of silver. Silver's catalytic properties make it ideal for use as a catalyst in oxidation reactions; for example, the production of formaldehyde from methanol and air, catalyzed by silver screens or crystallites containing a minimum 99.95 weightpercent silver (Butts and Coxe, 1967, p. 1-15).

The most common occurrences of silver are in association with base metals and other precious metals. About $75 \%$ to $80 \%$ of the silver mined today is produced as a byproduct of mining operations directed mainly at the production of copper, gold, lead, or zinc. A large part of silver production is, therefore, relatively insensitive to the price of silver.

There are two types of markets for silver-physical markets and futures exchanges. It is possible for these markets to overlap if the buyers of futures contracts take delivery of silver metal when the contracts mature. A notable example of this was in the early 1980's when two buyers and their associates took delivery of millions of ounces of silver when their futures contract matured. Physical markets are operated by bullion dealers, banks, and commodity dealers. Silver is bought from mines and refineries and sold to consumers and brokers to supply industrial and investment demand. The London Bullion Market, which had its origins in the $17^{\text {th }}$ century, was the leading physical market until about 1960 when it was overtaken in importance by the New York Market. The London Market fixes a daily price, at which all orders to buy or sell silver can be matched. The New York Market price for silver is the Handy \& Harman quote for unfabricated silver, which the company announces daily at noon. That is the lowest price at which offers can be obtained by Handy \& Harman for silver in commercial bar form. The Handy \& Harman price and the London fixing are for $99.9 \%$-pure silver.

Prior to World War II, the major uses for silver, other than in coinage, were for jewelry and sterlingware. During the war, however, technological advances were made in electronics and photography. After the war, this technology was used to develop new consumer products. As the demand for consumer goods increased, so did the demand for silver, and, as a result, the market price increased. The higher market price, however, did not result in increased mine production. The Silver Act of 1946 authorized the U.S. Treasury to purchase domestically mined silver at $\$ 0.905$ and to sell its silver holdings at $\$ 0.91$ per ounce. Through the first half of the 1950 's, the market price remained below $\$ 0.91$, so domestic mine operators sold their silver to the Treasury. In the second half of the 1950's, the continued increase in industrial demand for silver and static mine production resulted in the market price increasing to $\$ 0.91$ and Treasury silver sales being the largest source of silver for industrial consumers (National Academy of Sciences, 1968).

In the late 1950's and early 1960 's, a second component was added to the demand side of the supply-demand equation-the investor-speculator. The silver certificates authorized by the Silver Purchase Act of 1934 were redeemable for silver held by the Treasury. At a market price above
$\$ 1.29$, a profit could be made by redeeming the silver certificates, receiving 0.77 ounce of silver from the Treasury, and then selling the silver. In addition, at a market price above $\$ 1.38$, a profit could be made by melting U.S. circulating coinage for its silver content. Realizing that it could not continue to supply industrial consumers with silver, mint coinage, and maintain a stock of silver for redemption of silver certificates, the Government began a program to demonetize silver. Public Law 88-36, which repealed the Silver Purchase Act of 1934 and authorized the printing of Federal Reserve Notes not redeemable in silver, was passed in mid-1963. The Coinage Act of 1965 eliminated the use of silver in dimes and quarters and reduced the silver content of half dollars. In 1967, silver coins were withdrawn from circulation, and holders of silver certificates were given 1 year, until June 24, 1968, to redeem the certificates for silver (Silver Institute, 1990, p. 6-7).

With the ending of the relation between silver and the U.S. monetary system in 1968, investor-speculator activities and industrial demand became the main determinants of movement in the silver market price. From 1968 through 1971, the price declined, owing, in part, to an economic recession in the United States and an attempt by the Government to stabilize the price of silver. From 1972 through 1975, the average price increased, owing to such factors as the devaluation of the U.S. dollar and an embargo of oil exports by the Organization of Petroleum Exporting Countries. Prices also increased from 1976 through 1980. Analysts attributed this 5-year period of higher average prices to such factors as a high domestic inflation rate combined with slow growth in U.S. economic activity, another "oil crisis," a U.S. economic recession that began in 1979, and an attempt by a group of investors to "corner" the silver market (Roskill Information Services Ltd., 1984, p. 190-203). By early 1981, the silver market was beginning to adjust to the upward pressure placed on prices in 1979 through 1980. Owing to worldwide recession and reaction to higher silver prices, industrial demand for silver was in decline, and investment demand for silver fell sharply. Supply also fell as the surge of secondary recovery from old scrap and coin remelt subsided. Silver prices reached a cyclical low of $\$ 4.88$ per ounce in June 1982, 10\% of the $\$ 48$ peak 30 months earlier. Because of panic in the financial markets and fear of inflation, investment demand for silver increased sharply in late 1982 and the first quarter of 1983. This influx of investor buying helped push silver prices from the low of $\$ 4.88$ in June 1982 to a peak of $\$ 14.74$ in February 1983. In March, this rapid rise in price (the price nearly tripled in 9 months) was reversed as investors took profits, industrial users developed new methods that reduced their per-unit use of silver and substituted lower priced materials for silver. Prices recovered during the summer, but the trend was downward from the fourth quarter of 1983 through 1986. Lower prices discouraged the secondary recovery of silver and forced lessefficient mines to close. On the demand side, lower prices
relieved the pressure to use less silver or to use lower cost substitutes for silver in products. After starting 1987 at $\$ 5.44$ per ounce, prices reached a low of $\$ 5.36$ on January 7 . Prices increased though the remainder of the year, reaching a high of $\$ 10.20$ on April 27 but closing out the year at $\$ 7.20$. The annual average price for 1987 was $\$ 7.01$ per ounce, the first increase in 4 years.

Owing to various market and economic conditions, the annual average price of silver declined from $\$ 7.01$ per ounce in 1987 to a low of $\$ 3.94$ in 1992 before increasing slightly to $\$ 4.30$ in 1993. Prices began to increase in the first quarter of 1994, reaching $\$ 5.75$ per ounce on March 28, 1994. The upward momentum was caused by political unrest in Mexico, the world's largest producer, and reports of large shipments to India. In April, prices slipped rapidly to around $\$ 5.00$ per ounce as Indian demand slowed and large supplies from Russia and other East European countries appeared in the market. In September, prices increased again to $\$ 5.71$ per ounce before collapsing to $\$ 4.90$ on November 30. Prices in 1995 were not quite as volatile as in 1994, but the downward trend that began in April 1994 continued (Silver Institute, 1995, p. 8-15).
For centuries, the price of silver has been closely coupled with the price of gold, but the demonetization of both metals in much of the world has weakened the link. Throughout most of 1996, the price of silver was adversely affected by the poor performance of gold. Toward the end of 1996, however, the price of silver began to deviate from the price of gold, owing to investors' and speculators' adoption of distinctly different positions in the two markets. This decoupling process continued into 1997, and although the gold market continued to influence the price of silver, the trend in the metals' prices indicated that a total decoupling may have been in the making.

In the first 2 months of 1997, the price of gold fell by $2 \%$. Initially, the price of silver followed gold down to a 2 -year low of $\$ 4.65$ per ounce in the first week of January. During the next 6 weeks, the price began to rebound, rising by $14 \%$ to reach $\$ 5.32$ on March 3. The higher price proved to be unsustainable as technical selling entered the market. Silver
prices dropped to $\$ 4.64$ on April 29. Early in July, gold fell to $\$ 315$, a 12 -year low. Subsequently, silver fell to $\$ 4.21$ on July 17, its low for the year. On October 27, the Dow Jones Industrial average dropped more than 500 points, Asian equity markets were in turmoil, and gold fell to a 12 -year low of $\$ 308$ per ounce. Surprisingly, silver held its ground, closing above $\$ 4.60$. After the U.S. Thanksgiving holiday, gold fell below $\$ 300$ while silver climbed to more than $\$ 5.30$. By the 1 st of December, the price of silver had increased by $\$ 0.53$, to $\$ 5.83$, as above-ground stocks of silver declined to the lowest level in many years. The price of silver reached its high for 1997 on December 24 at $\$ 6.24$ and closed out the year at $\$ 5.95$ per ounce; the price ratio of silver to gold was 48:1.

Silver prices averaged $\$ 4.94$ per ounce in the fourth quarter of 1998, down from $\$ 6.25$ in the first quarter. In February, prices rose to a 9 -year high after it became known that a U.S. investment firm had purchased 3,978 metric tons of the metal. The investment firm made its first purchase in July 1997 when the price was below $\$ 4.50$ per ounce. The price rose to a high of $\$ 7.13$ in the first week of February before falling back to $\$ 6.15$ by the end of the month. Prices fell even further in May, June, and July to a low of about $\$ 4.70$ at the end of August. Prices traded within the narrow range $\$ 5.203$ to $\$ 4.963$ for the remainder of the year and closed out the year at $\$ 5.05$ per ounce.

## References Cited

Butts, A., and Coxe, C.D., 1967, Silver-Economics, metallurgy, and use: Princeton, NJ, D.Van Nostrand, 488 p.
National Academy of Sciences, 1968, Trends in usage of silver: National Academy of Sciences Publication MAB-24, 15 p.
Roskill InformationServices Ltd., 1984, The economics of silver (3d ed.): London, Roskill Information Services Ltd., 203 p.
Silver Institute, 1990, World silver survey, 1950-1990: Washington, DC, Silver Institute, 81 p .
_-_ 1995, World silver survey, 1995: Washington, DC, Silver Institute, 64 p .

Annual Average Silver Price
(Dollars per troy ounce ${ }^{1}$ )

| Year | Price | Year | Price | Year | Price | Year | Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1900 | 0.62 | 1925 | 0.69 | 1950 | 0.74 | 1975 | 4.42 |
| 1901 | 0.60 | 1926 | 0.62 | 1951 | 0.89 | 1976 | 4.35 |
| 1902 | 0.53 | 1927 | 0.57 | 1952 | 0.85 | 1977 | 4.62 |
| 1903 | 0.54 | 1928 | 0.58 | 1953 | 0.85 | 1978 | 5.40 |
| 1904 | 0.58 | 1929 | 0.53 | 1954 | 0.85 | 1979 | 11.09 |
| 1905 | 0.61 | 1930 | 0.38 | 1955 | 0.89 | 1980 | 20.63 |
| 1906 | 0.67 | 1931 | 0.29 | 1956 | 0.91 | 1981 | 10.52 |
| 1907 | 0.66 | 1932 | 0.28 | 1957 | 0.91 | 1982 | 7.95 |
| 1908 | 0.53 | 1933 | 0.35 | 1958 | 0.89 | 1983 | 11.44 |
| 1909 | 0.52 | 1934 | 0.48 | 1959 | 0.91 | 1984 | 8.14 |
| 1910 | 0.54 | 1935 | 0.64 | 1960 | 0.91 | 1985 | 6.14 |
| 1911 | 0.54 | 1936 | 0.45 | 1961 | 0.92 | 1986 | 5.47 |
| 1912 | 0.62 | 1937 | 0.45 | 1962 | 1.09 | 1987 | 7.01 |
| 1913 | 0.61 | 1938 | 0.43 | 1963 | 1.28 | 1988 | 6.53 |
| 1914 | 0.56 | 1939 | 0.39 | 1964 | 1.29 | 1989 | 5.50 |
| 1915 | 0.51 | 1940 | 0.35 | 1965 | 1.29 | 1990 | 4.82 |
| 1916 | 0.67 | 1941 | 0.35 | 1966 | 1.29 | 1991 | 4.04 |
| 1917 | 0.84 | 1942 | 0.38 | 1967 | 1.55 | 1992 | 3.94 |
| 1918 | 0.98 | 1943 | 0.45 | 1968 | 2.14 | 1993 | 4.30 |
| 1919 | 1.12 | 1944 | 0.45 | 1969 | 1.79 | 1994 | 5.29 |
| 1920 | 1.02 | 1945 | 0.52 | 1970 | 1.77 | 1995 | 5.15 |
| 1921 | 0.63 | 1946 | 0.80 | 1971 | 1.55 | 1996 | 5.19 |
| 1922 | 0.68 | 1947 | 0.72 | 1972 | 1.68 | 1997 | 4.89 |
| 1923 | 0.65 | 1948 | 0.74 | 1973 | 2.56 | 1998 | 5.10 |
| 1924 | 0.67 | 1949 | 0.72 | 1974 | 4.71 |  |  |

${ }^{1}$ To convert to dollars per kilogram, multiply by 32.1507.

Note:
1900-74, New York price of 99.9\%-pure silver, in Silver, U.S. Bureau of Mines Minerals Yearbook 1974.
1974-93, New York price of 99.9\%-pure silver, in Metals Week (through June 14, 1993).
1993-98, New York price of 99.9\%-pure silver, in Platt's Metals Week.

