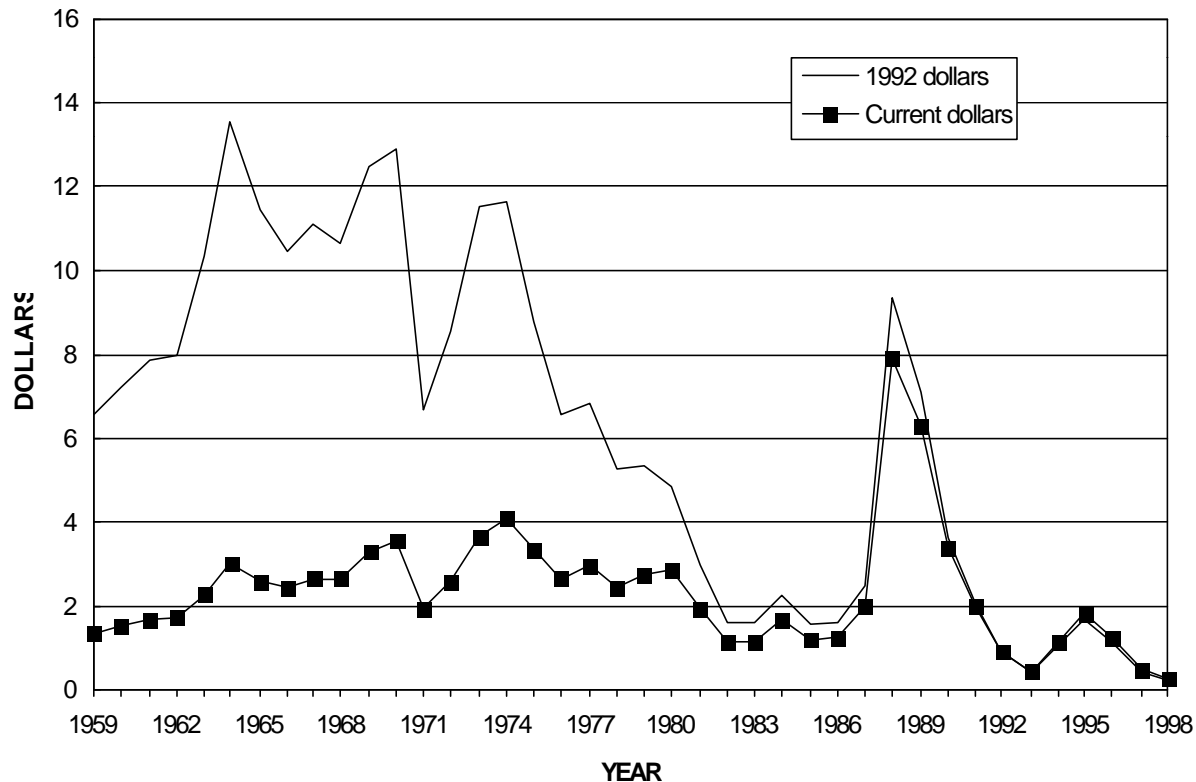


Annual Average Cadmium Price
(Dollars per pound)

Significant events affecting cadmium prices since 1958

1961-75	Vietnam War; price trends slowly upward
1971-74	Doubling of price, despite anti-inflation price controls
1973-74	Oil embargo by the Organization of Petroleum Exporting Countries
1980-82	Two recessions (1980 and 1981-82); plummeting price
1982	Lowest cadmium price since end the of World War II
1988	Tight supply of cadmium metal, speculative trading; largest recorded annual increase in cadmium price

Cadmium minerals are not found in commercial quantities. The metal is produced as a byproduct in the recovery of primary zinc from zinc ores and also from some lead or complex copper-lead-zinc ores. The feed material for cadmium production consists of fume and dust that are collected as flue dust in baghouses during the pyrometallurgical processing of zinc and residues that result from

electrolytic zinc production. The availability of cadmium is, in most cases, dependent on the amount of zinc produced. Germany was the only important producer of cadmium until World War I. Production of cadmium in the United States began in 1907. By 1917, the United States had become the world's leading producer and held that position for more than 50 years. During this period, the price of cadmium was

dictated by either market forces or, during World War II and the Korean Conflict, Government-imposed regulations. The last of these regulations, enacted during the Korean Conflict, was revoked on May 15, 1952. Since that time, the price of cadmium has been determined primarily by supply and demand.

Following the end of Government regulations, the price of cadmium metal fluctuated widely between 1953 and 1973, reflecting the variation in supply and demand. Domestic prices rose to world price levels in 1973 and increased to \$4.09 per pound by 1974, surpassing the European market quotations. During the next few years, the price trended slowly downward despite continuing currency inflation. By 1982, depressed by the recessions of 1980 and 1981-82, the price had dropped to the lowest level since the end of World War II—\$1.11 per pound of cadmium metal.

What began as a modest increase in 1986 and 1987 turned into the largest recorded annual increase of cadmium price in 1988. By March of that year, the domestic price for a pound of cadmium metal reached \$9.10. The market was so tight in early 1998 that major producers did not have any material to sell on the spot market and would not make any commitments for near-term sales at a specific price. The price increase was attributed to the tight supply of cadmium, heavy speculative trading, and world labor disputes, which disrupted the supply of cadmium metal. The supply squeeze was further affected by the purchases of large quantities of cadmium by the nickel-cadmium battery industry, particularly in Japan. For the first 8 months (after which producers stopped quoting),

the price averaged \$7.90, a nearly 300% increase from that of the previous year. The price fell precipitously in the following 5 years, dropping to \$0.45 in 1993 (U.S. Bureau of Mines, 1993, p. 21-24). Since that year, the price for cadmium has fluctuated between \$0.28 and \$1.80 per pound of metal. Some industry analysts attribute the volatility of cadmium prices to the fact that the price of the 95% of all cadmium sold under long-term contracts, usually by primary zinc producers, is strongly influenced by the 5% of cadmium sold on the spot market, which is more reflective of supply and demand.

The price for cadmium in the next several years will probably be affected by the proposed ban on cadmium in some of the major European countries, increasingly strict U.S. environmental regulations limiting domestic use of cadmium in all its forms, and an increased supply of primary cadmium from zinc smelting and secondary cadmium from recycling (Organisation for Economic Co-operation and Development, 1997, p. 3-5).

References Cited

- Organisation for Economic Co-operation and Development, 1997, OECD workshop on the effective collection and recycling of nickel-cadmium batteries: Lyon, France, Organisation for Economic Co-operation and Development, 30 p.
- U.S. Bureau of Mines, 1993, Metal prices in the United States through 1991: U.S. Bureau of Mines, 201 p.

Annual Average Cadmium Price
(Dollars per pound¹)

Year	Price	Year	Price	Year	Price	Year	Price
1900	0.65	1925	0.60	1950	2.17	1975	3.36
1901	0.68	1926	0.60	1951	2.55	1976	2.66
1902	0.54	1927	0.60	1952	2.23	1977	2.96
1903	0.53	1928	0.60	1953	2.00	1978	2.45
1904	0.59	1929	0.60	1954	1.70	1979	2.76
1905	0.65	1930	0.60	1955	1.70	1980	2.84
1906	0.76	1931	0.55	1956	1.70	1981	1.93
1907	1.02	1932	0.55	1957	1.70	1982	1.11
1908	0.75	1933	0.55	1958	1.52	1983	1.13
1909	0.52	1934	0.55	1959	1.36	1984	1.69
1910	0.55	1935	0.70	1960	1.52	1985	1.21
1911	0.67	1936	0.98	1961	1.68	1986	1.25
1912	0.76	1937	1.22	1962	1.72	1987	1.99
1913	0.77	1938	0.98	1963	2.26	1988	7.90
1914	0.89	1939	0.64	1964	3.00	1989	6.28
1915	1.19	1940	0.82	1965	2.58	1990	3.38
1916	1.56	1941	0.90	1966	2.42	1991	2.01
1917	1.47	1942	0.90	1967	2.64	1992	0.91
1918	1.48	1943	0.90	1968	2.65	1993	0.45
1919	1.22	1944	0.90	1969	3.27	1994	1.13
1920	1.17	1945	0.90	1970	3.57	1995	1.84
1921	0.98	1946	1.09	1971	1.92	1996	1.24
1922	1.09	1947	1.70	1972	2.56	1997	0.51
1923	0.88	1948	1.83	1973	3.64	1998	0.28
1924	0.70	1949	2.00	1974	4.09		

¹ To convert to dollars per kilogram, multiply by 2.20462.

Note:

1900-66, Producer price for 99.95%-pure cadmium, *in* Engineering & Mining Journal.

1967-93, Producer price for 99.95%-pure cadmium, *in* Metals Week. Major producers suspended price quotes during the last 4 months of 1988; 1988 price is January to August average.

1994-99, New York dealer price for 99.99%-pure cadmium, *in* Platt's Metals Week.