
WORLD SILVER SURVEY

1991



THE SILVER INSTITUTE

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Preface

The Silver Institute is pleased to release this second edition of the **World Silver Survey**. This series of reports was unveiled in 1990, with the publication of an expanded report that both reviewed recent market conditions and presented a long-term analysis of the silver market over the past 40 years.

The Silver Institute has two objectives in undertaking the **World Silver Survey** project. The first is to improve the distribution of reliable, detailed information on silver supply and demand throughout the world.

The second is to improve and expand the quality of the statistics that are available. With this second point in mind, the Silver Institute has instructed CPM Group, the research company that produces these reports for the Institute, to work to expand the detailed statistical portrait of the silver market as much as possible. In this edition, CPM Group has broken down silver use in the United States in greater detail.

Along these same lines, European silver use in jewelry, silverplate, and sterlingware traditionally has been combined in these statistics. With this report, Italian use has been divided to some extent, and a qualitative discussion on silver use in these individual industries in other European countries has been included.

Finally, CPM Group has developed some statistics measuring the flow of silver in fabricated jewelry and sterlingware products into the United States from other countries. Little statistical information on the import of these items is available from government sources. Even so, as the discussion in this report makes clear, there has been a remarkable expansion in the import of these goods into the United States in recent years.

The Silver Institute also has commissioned a separate study of India, which now is the third or fourth largest user. This study was prepared by Timothy S. Green, who recently visited India and Dubai, one of the main supply points for silver destined for India. His study shows considerably more silver entering India than had been previously reported. It appears as an appendix to this report.

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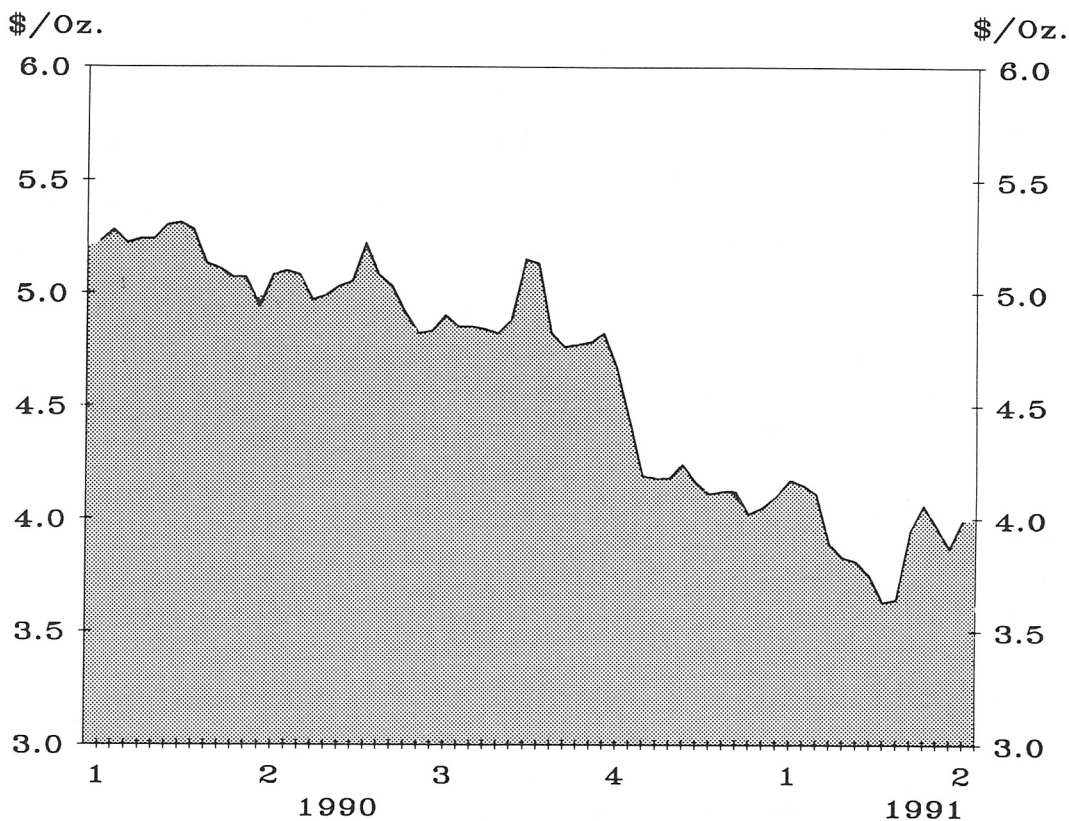
Summary

Prices

- 1. Silver prices continued to decline in late 1990. Comex spot prices averaged \$4.81 per troy ounce in 1990, 12.4% below the 1989 average price. This was the lowest annual average price for silver since 1977.
- 2. Prices fell further in early 1991, touching \$3.51 in March. During the first quarter of 1991 silver averaged \$3.90.
- 3. Adjusted for inflation, silver prices in early 1991 were at their lowest levels since the 1960s.

Silver Prices, 1990-1991

Weekly average Comex settlement prices

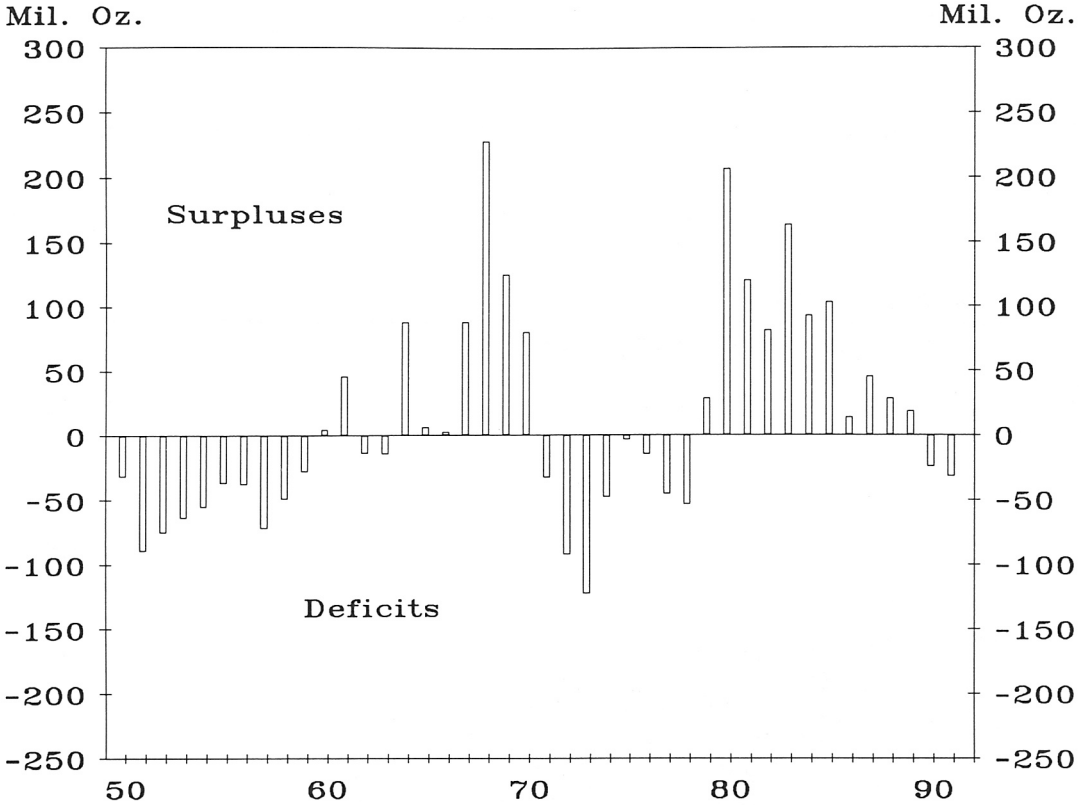


Market Balance

- 4. Fabrication demand (industrial demand plus coins) exceeded supply by 24.4 million ounces in 1990, the first such deficit of new supply relative to fabrication demand since 1978. In 1991 fabrication demand is projected to exceed total new supply by 32.0 million ounces.

Long Term Silver Supply/Fabrication Demand Balance

Annual, data on pages 6-7



Supply

5. Total silver supply is estimated to have declined 2.7% from 1989 levels to 500.6 million ounces in 1990. Declining recovery of silver from scrapped items, generally the first sector to respond to price changes, accounted for the decline.

6. In 1991 total supply is expected to rise slightly less than 1%. For the full year, total supply is projected at 505.0 million ounces.

7. Mine production is estimated to have risen 1.2% in 1990, to 365.6 million ounces. Total mine production is projected to rise 3.9% this year, to around 380.0 million ounces; even as some major mines are cutting back on their operations, other projects at which large volumes of silver are produced as a by-product are coming onstream.

8. Secondary supply meanwhile decreased more than 13%, to 118.0 million ounces. The largest decline was in scrapped industrial items and jewelry, the recovery of which decreased from 125.0 million ounces worldwide in 1989 to 112.0 million ounces in 1990. Secondary supply of silver from scrapped fabricated items is expected to decline again this year, possibly to around 108.0 million ounces.

9. The recovery of silver from scrapped decorative items and jewelry in India, which used to supply large amounts of silver each year, virtually dried up in 1990, being replaced by smuggled silver as the source for silver used within India.

Fabrication Demand

10. Silver fabrication demand (which includes coinage) rose at a strong 6.0% rate in 1990, from 495.5 million ounces in 1989 to 525.0 million ounces. Nearly half of the increase was a 14.8 million ounce increase in Indian silver consumption, largely for jewelry, decorative items, and sterlingware. As a result of this increase, India now is the fourth largest silver consuming nation, with total silver demand last year at 41.8 million ounces.

11. Fabrication demand for silver is projected to rise a further 2.3% this year, to 537.0 million ounces. Demand growth is expected to be strongest in the photographic sector.

12. Industrial demand in countries outside of the United States, Japan, and Western Europe has been expanding in recent years. Silver use in these countries rose 22%, from 76.1 million ounces in 1989 to 92.9 million ounces in 1990. As with the world total, the rise in Indian demand accounted for a large portion of this increase.

Investment Demand

13. Investors remained disinterested in silver during 1990. For the second year in a row, investors appeared to have been net sellers of substantial amounts of silver bullion.

14. Investor sentiment clearly shifted toward favoring silver in the first quarter of 1991, after a long period of investor disinterest. Commodity and mutual funds, large individual investors, and smaller investors all began a tentative return to holding a more positive view of silver. Physical bullion and coin purchases rose commensurately.

15. This change in attitude was reflected in the status of silver held in New York bank vaults. After peaking in February, total reported New York silver stocks declined slightly in March and April. More important, there has been a sharp rise in the amount of silver held in New York bank vaults by long-term investors.

16. Small investors purchased 3.9 million ounces of American Eagle coins in the first quarter of 1991, 42% more than in the first three months of 1990. Mexican coin sales also rose sharply. Coin sales are projected to remain level this year, at 25.0 million ounces. (Coinage figures are listed separately, but added to industrial demand figures when calculating total fabrication demand.)

Silver Statistical Position

Million Troy Ounces

	1977	1978	1979	1980	1981	1982	1983	1984
Mine Production								
Mexico	47.0	50.8	49.4	47.3	53.2	49.8	55.0	63.9
United States	38.2	39.4	37.9	32.3	40.7	40.2	43.4	44.6
Peru	39.1	37.0	41.9	43.0	46.9	53.4	55.6	56.5
Canada	42.2	40.7	36.9	34.4	36.3	42.2	38.7	42.0
Other	96.8	98.9	105.9	107.6	110.4	111.5	120.9	120.8
Total	263.3	266.8	272.0	264.6	287.5	297.0	313.6	327.8
% Change Year Ago ...	—	1.3%	1.9%	-2.7%	8.7%	3.3%	5.6%	4.5%
Secondary and Other Supply	182.0	168.0	233.0	320.0	196.0	158.0	217.5	153.6
% Change Year Ago ...	—	-7.7%	38.7%	37.3%	-38.8%	-19.4%	37.7%	-29.4%
Total Supply	445.3	434.8	505.0	584.6	483.5	455.0	531.1	481.4
% Change Year Ago ...	—	-2.4%	16.1%	15.8%	-17.3%	-5.9%	16.7%	-9.4%
Industrial Demand								
Photography	135.4	149.4	152.7	129.4	133.7	138.8	145.0	151.8
Jewelry & Silverware ...	91.0	91.9	79.1	47.9	43.5	50.2	42.1	39.3
Electronics	78.7	79.3	80.4	71.2	62.2	61.7	60.4	62.3
Other	81.7	77.5	75.9	61.0	56.2	52.6	50.7	57.7
Other Countries, Total ..	70.0	51.0	57.0	53.0	58.0	56.0	57.0	61.6
Total	456.8	449.1	445.1	362.5	353.6	359.3	355.2	372.7
% Change Year Ago ...	—	-1.7%	-0.9%	-18.6%	-2.5%	1.6%	-1.1%	4.9%
Net Surplus or Deficit in the								
Bullion Market	-11.5	-14.3	59.9	222.1	129.9	93.7	173.9	106.7
Coinage	34.5	39.5	31.0	15.0	9.5	12.0	10.2	13.7
Net Surplus or Deficit After								
Coins	-46.0	-53.8	28.9	207.1	120.4	83.7	165.7	95.0
Additional Statistics								
Changes in Reported								
Stocks	10.5	-15.3	-7.8	2.8	-15.7	12.7	52.2	-8.0

Note: Totals may not equal the sum of categories due to rounding. Excludes transitional economies, except for net exports into the market. Photography, jewelry and silverware, electronics, and "other" industrial use includes U.S., European, and Japanese demand.

p—projections. NM—Not meaningful.

Source: CPM Group.

<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991p</u>	
69.2	69.4	69.8	70.0	70.0	64.1	65.0	Mine Production
39.4	34.2	39.8	53.4	60.8	66.5	68.0	Mexico
60.9	61.9	65.9	50.1	59.6	54.8	56.0	United States
38.5	35.0	38.1	44.1	41.3	44.4	46.0	Peru
<u>128.0</u>	<u>121.8</u>	<u>126.9</u>	<u>128.8</u>	<u>129.4</u>	<u>135.8</u>	<u>145.0</u>	Canada
336.0	322.3	340.5	346.4	361.1	365.6	380.0	Other
2.5%	-4.1%	5.6%	1.7%	4.2%	1.2%	3.9%	Total
152.9	124.9	164.0	158.1	153.2	135.0	125.0	% Change Year Ago
-0.5%	-18.3%	31.3%	-3.6%	-3.1%	-11.9%	-7.4%	Secondary and Other Supply
488.9	447.2	504.5	504.5	514.3	500.6	505.0	% Change Year Ago
1.6%	-8.5%	12.8%	0.0%	1.9%	-2.7%	0.9%	Total Supply
							% Change Year Ago
155.0	161.1	172.4	185.8	186.0	194.0	200.0	Industrial Demand
41.7	60.5	66.0	69.3	70.1	72.7	74.0	Photography
64.7	66.4	61.1	65.3	70.6	71.1	72.0	Jewelry & Silverware
50.2	54.0	60.5	60.3	66.4	69.3	71.0	Electronics
<u>60.9</u>	<u>64.3</u>	<u>68.1</u>	<u>69.9</u>	<u>76.1</u>	<u>92.9</u>	<u>95.0</u>	Other
372.5	406.4	428.1	450.6	469.2	500.0	512.0	Other Countries, Total
-0.1%	9.1%	5.3%	5.3%	4.1%	6.6%	2.4%	Total
							% Change Year Ago
116.4	40.8	161.7	53.8	45.1	0.6	-7.0	Net Surplus or Deficit in the
13.4	26.8	30.4	25.3	26.3	25.0	25.0	Bullion Market
							Coinage
103.0	14.0	46.0	28.5	18.8	-24.4	-32.0	Net Surplus or Deficit After
							Coins
							Additional Statistics
37.8	-38.6	2.8	16.3	51.1	33.3		Changes in Reported
							Stocks

World Silver Supply and Fabrication Demand

Million Troy Ounces

Year	Supply			Total	Demand		
	Mine Output	Secondary	Other		Industrial	Coinage	Total
1950	169.5	—	—	169.5	157.4	44.1	201.5
1951	165.5	—	—	165.5	164.6	90.5	255.1
1952	180.6	—	—	180.6	142.1	114.3	256.4
1953	184.7	—	—	184.7	168.3	90.8	259.1
1954	178.6	—	—	178.6	160.8	83.4	244.2
1955	187.7	—	10.3	198.0	192.8	52.6	245.4
1956	189.8	30.5	3.7	224.0	215.9	56.6	272.5
1957	195.6	25.0	3.8	224.4	212.6	84.2	296.8
1958	202.3	17.0	1.3	220.6	190.5	79.5	270.0
1959	195.6	33.4	42.0	271.0	212.9	86.4	299.3
1960	201.8	52.0	90.0	343.8	235.3	103.9	339.2
1961	203.9	65.0	181.0	449.9	267.7	136.0	403.7
1962	210.8	69.0	107.0	386.8	273.6	127.6	401.2
1963	214.0	68.0	147.0	429.0	277.1	166.4	443.5
1964	211.5	86.0	374.0	671.5	315.9	267.1	583.0
1965	218.4	103.0	426.0	747.4	355.8	385.1	740.9
1966	225.2	105.0	217.0	547.2	414.9	129.5	544.4
1967	214.7	126.0	252.0	592.7	399.0	105.3	504.3
1968	230.2	227.0	232.0	689.2	371.0	89.3	460.3
1969	248.7	174.0	119.0	541.7	383.8	32.7	416.5
1970	258.5	127.0	91.0	476.5	372.9	23.4	396.3
1971	247.3	127.0	9.0	383.3	386.6	27.8	414.4
1972	248.9	112.0	14.0	374.9	427.4	38.1	465.5
1973	254.0	122.0	47.0	423.0	516.5	28.5	545.0
1974	236.6	192.0	22.0	450.6	466.3	31.6	497.9
1975	239.0	177.0	21.0	437.0	404.5	33.4	437.9
1976	242.9	235.0	19.0	496.9	481.0	30.0	511.0
1977	263.3	169.0	13.0	445.3	456.8	34.5	491.3
1978	266.8	152.0	16.0	434.8	449.1	39.5	488.6
1979	272.0	216.0	17.0	505.0	445.1	31.0	476.1
1980	264.6	302.0	18.0	584.6	362.5	15.0	377.5
1981	287.5	184.0	12.0	483.5	353.6	9.5	363.1
1982	297.0	155.0	3.0	455.0	359.3	12.0	371.3
1983	313.6	197.5	20.0	531.1	355.2	10.2	365.4
1984	327.8	165.6	-12.0	481.4	372.7	13.7	386.4
1985	336.0	140.9	12.0	488.9	372.5	13.4	385.9
1986	322.3	129.3	-4.4	447.2	406.4	26.8	433.2
1987	340.5	137.9	26.1	504.5	428.1	30.4	458.5
1988	346.4	143.9	14.2	504.5	450.6	25.3	475.9
1989	361.1	136.2	17.0	514.3	469.2	26.3	495.5
1990	365.6	118.0	17.0	500.6	500.0	25.0	525.0
1991p	380.0	108.0	17.0	505.0	512.0	25.0	537.0

Notes: Base year for real prices is 1950.

1991 price through March.

p—projections.

Sources: CPM Group, industry sources.

Surplus(+) Or Deficit (-)	Annual Prices Dollars per Ounce		Year
	Real (Base = 1950)	Nominal	
-32.0	0.74	0.74	1950
-89.6	0.83	0.89	1951
-75.8	0.77	0.85	1952
-74.4	0.77	0.85	1953
-65.6	0.76	0.85	1954
-47.4	0.80	0.89	1955
-48.5	0.80	0.91	1956
-72.4	0.78	0.91	1957
-49.4	0.74	0.89	1958
-28.3	0.75	0.91	1959
4.6	0.74	0.91	1960
46.2	0.74	0.92	1961
-14.4	0.86	1.08	1962
-14.5	1.00	1.28	1963
88.5	1.00	1.29	1964
6.5	0.99	1.29	1965
2.8	0.96	1.29	1966
88.4	1.12	1.55	1967
228.9	1.48	2.15	1968
125.2	1.40	2.14	1969
80.2	1.10	1.77	1970
-31.1	0.92	1.55	1971
-90.6	0.97	1.68	1972
-122.0	1.39	2.56	1973
-47.3	2.30	4.71	1974
-0.9	1.97	4.42	1975
-14.1	1.84	4.35	1976
-46.0	1.84	4.62	1977
-53.8	1.99	5.40	1978
28.9	3.68	11.09	1979
207.1	6.02	20.63	1980
120.4	2.78	10.52	1981
83.7	1.98	7.95	1982
165.7	2.76	11.44	1983
95.0	1.89	8.13	1984
103.0	1.37	6.14	1985
14.0	1.20	5.47	1986
46.0	1.48	7.01	1987
28.6	1.33	6.53	1988
18.8	1.07	5.50	1989
-24.4	0.90	4.82	1990
-32.0	0.73	3.91	1991p

Supply

Total new silver supply declined 2.7% in 1990, falling to 500.6 million ounces from 514.3 million ounces in 1989. A sharp decline in secondary supply, resulting from lower silver prices, was behind the contraction in overall supply.

The rate of growth in silver mine production slowed considerably last year.

Both of these trends are expected to continue in 1991. As a result, total supply may be relatively stable, rising less than 1% to 505.0 million ounces.

Mine Production

Market economy mine production totaled 365.6 million ounces in 1990, an increase of 1.2% from 361.1 million ounces in 1989. While mine output continues to rise, the rate of increase slowed

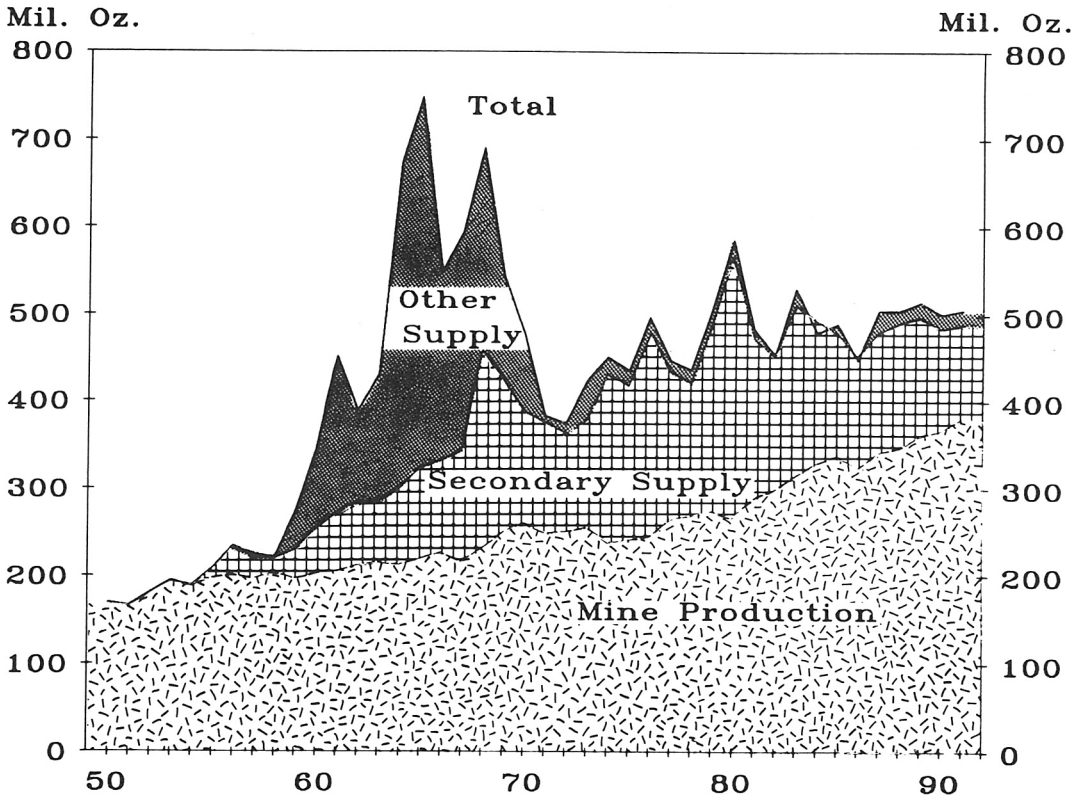
appreciably, as primary silver producers began to adjust their operations in response to lower prices.

In fact, recent prices are below the production costs of many primary silver mines. In late 1990, more than 40 small and medium sized mines in Mexico were closed. The closures appear to have reduced Mexican output several million ounces in 1990, from 70.0 million ounces in 1989 to an estimated 64.1 million ounces. In 1991, Mexican production is projected at 65.0 million ounces.

These figures for 1990 and 1991 were arrived at by consulting executives at several major Mexican mining companies, as well as some government ministries, and appear to be reasonable estimates that are acceptable to these informed sources. Estimates of Mexican production regu-

Long Term Silver Supply by Sector

Annual, 1950-1991 data on pages 6-7



larly vary widely. The Banco de Mexico, which many people consider to be good at accurately measuring Mexican output, estimates 1990 production at 70.0 million ounces, with 1991 production projected to fall to 65.0 million ounces.

Peruvian mine output has been adversely affected by that country's unremitting economic and political problems. Production there fell 8.1% in 1990, to 54.8 million ounces from 59.6 million ounces in 1989, and could total around 56.0 million ounces in 1991.

U.S. mine production rose to 66.5 million ounces in 1990, up 9.4% from 60.8 million ounces in 1989. Primary silver producers in the United States began cutting back and closing some operations in early 1991, but these moves may be more than offset by an increase in by-product output. U.S. mine output is projected to rise 2% in 1991, to around 68.0 million ounces.

Canadian mine output rose 7.5% to 44.4 million ounces in 1990, from 41.3 million ounces the

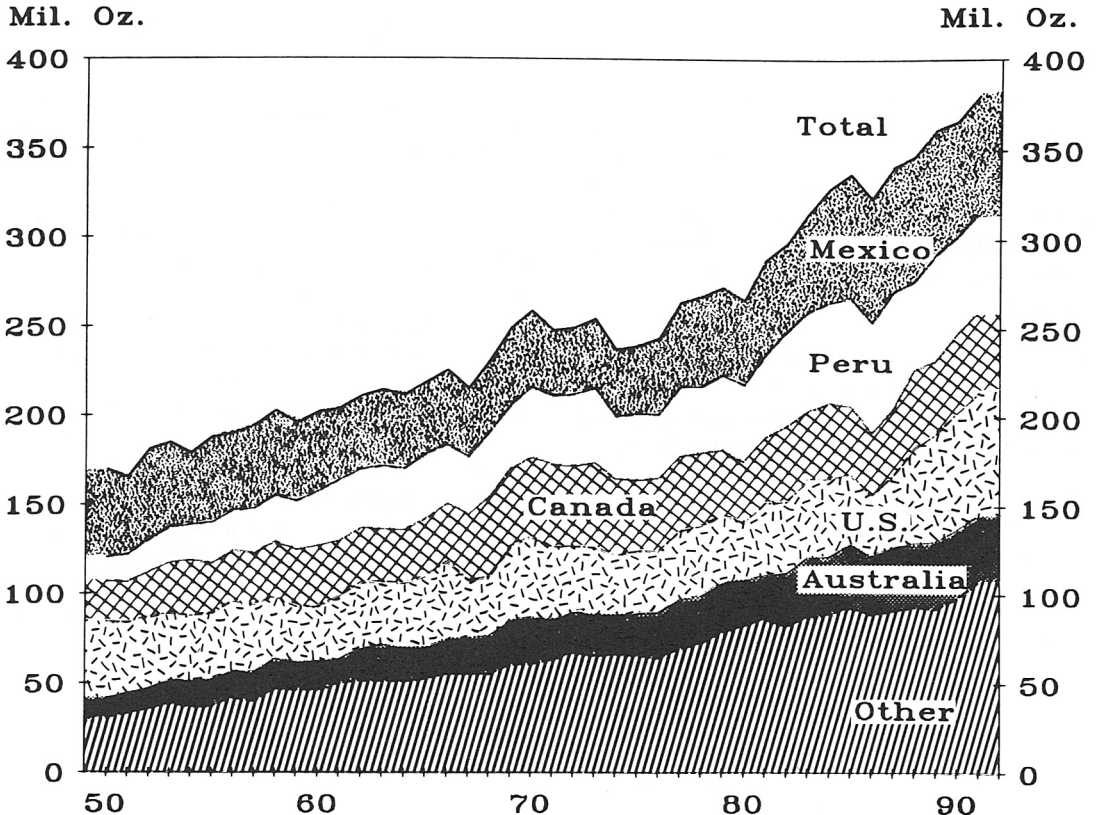
previous year. Canada could produce 3.6% more silver in 1991, or 46.0 million ounces, because of higher by-product silver production from gold and copper mines. Production at the Equity Silver Mine is expected to decline, as reserves are depleted. However, a sizable decline was forecast for 1990, and output at the mine actually rose 5%. Cominco's Sullivan Mine was back in full production in the final period of 1990.

Australia produced 37.8 million ounces of silver in 1990, an increase of 1.3% from 37.3 million ounces in 1989. Australian output may be flat in 1991.

The most significant growth in mine output will come from countries other than the major producing nations. Outside of the top five producing nations, mine production is projected to rise 9.4% this year, to 107.2 million ounces from 98.0 million ounces in 1990. The bulk of this production is expected to be in the form of by-product silver from Chile, and Papua New Guinea.

Mine Production

Annual, data on page 12



The projections for mine production in 1991 differ in some instances from those in the Silver Institute's Mine Survey, which appears as an appendix to this study. There are various methods for developing such projections.

The projections used here show a deficit of 32.0 million ounces of total new silver supply over fabrication demand for 1991. Using the results of the Silver Institute's annual mining survey, mine production is 24.1 million ounces lower than the projections used in this section, which would raise the projected deficit to 56.1 million ounces.

Secondary Supply

While mine production is just beginning to adjust to the decline in silver prices, secondary supply has been constrained by lower price levels for some time. Secondary supply is highly price elastic: Changes in silver prices tend to have a relatively large impact on scrap recovery rates almost immediately. This is in contrast to mine production, where the effect of price changes tends to be visible only on a long-term basis, and where changes in fabrication demand levels and overall economic conditions tend to exert a greater influence.

Most electronics and telecommunications equipment that contains silver no longer is economic to recycle for the silver content. In the early 1980s, much of this equipment might have contained 2%-4% silver by weight when it was scrapped. Reduction in silver usage over the course of the 1980s has lowered the silver content of electronic scrap to around 0.5% now, in contrast.

Because of this, there has been a sharp decline in the recovery of silver from scrapped electronics goods. Silver still is recovered from chemical process catalysts and other industrial products.

Meanwhile, the bulk of silver scrap today comes from photographic materials, which supply perhaps three-quarters of old silver scrap. It remains economic to recover the silver from much of this material, even at prices around \$3.50-\$4.00.

Recovery of silver from old scrap declined 10% in 1990, to 112.0 million ounces from 125.0 million ounces in 1989, and is projected to fall a further 7% in 1991, to 104.0 million ounces.

Coin melt was slightly lower in 1990, at 6.0 million ounces, and is seen declining by one third this year, to 4.0 million ounces.

The most dramatic shift in secondary supply has been the virtual disappearance of South Asian dishoarding last year. South Asian dishoarding, primarily the sale of decorative items and jewelry in India, once was the keystone of Indian supply. In 1989, recovery of Indian scrap declined 64% to 13.2 million ounces. Last year, the Indian scrap pipeline was virtually empty, and fabricators in what now has become the fourth largest silver-using nation had to rely solely on silver smuggled into the country. This trend is expected to continue in 1991.

Other Supply

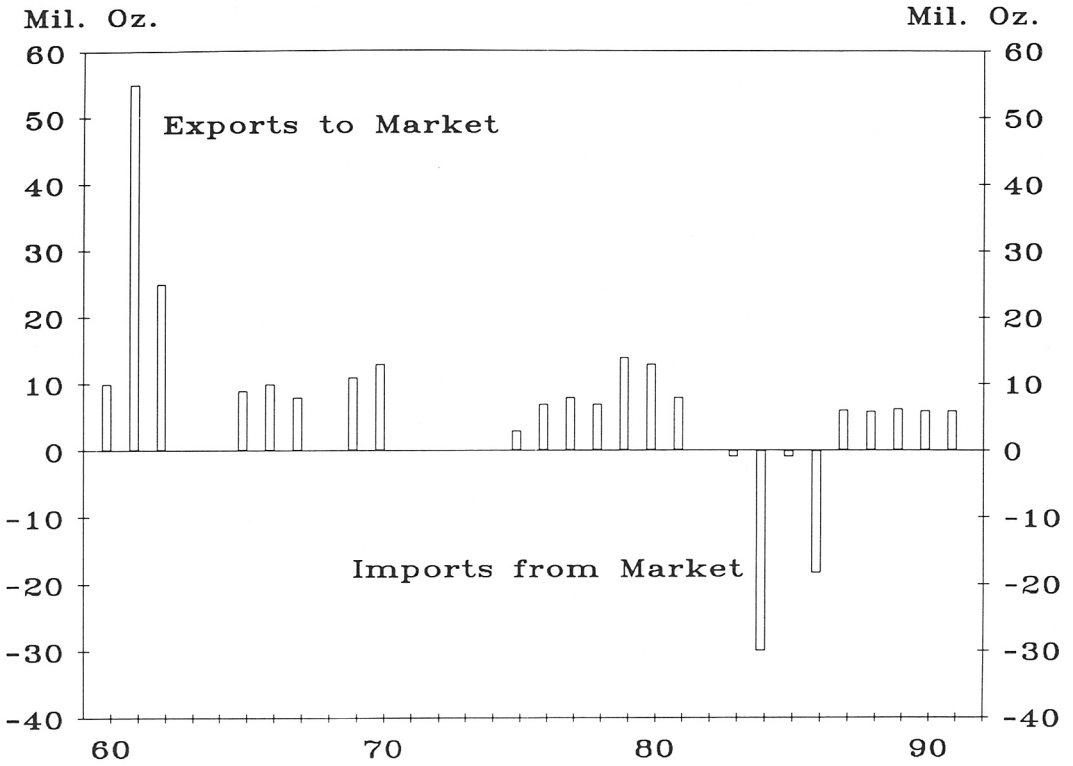
Silver bullion enters the market from two other sources. These 'other supplies' are disposals by governments from national silver inventories and net exports from the transitional economies of Eastern Europe and Asia.

Silver supply from these sources was unchanged in 1990 at 17.0 million ounces, and is expected to remain stable this year.

Poland, the major transitional economy silver exporter, is likely to produce and export less silver in 1991 than it has in recent years. This has led to market speculation that silver supplies entering the market from Eastern Europe may fall this year. However, the Soviet Union, which relies on Poland to bridge its own shortfall in supplies, appears to be using less silver this year, freeing up Polish metal for export to the market economies. The same is true in other Eastern European countries, where raw material consumption rates have plummeted since 1989, freeing up material for export and reducing import requirements. Net transitional economy exports this year thus are projected to be level with 1990, at 6.0 million ounces.

Transitional Economies Net Trade

Annual, data on page 13



Mine Production of Silver, 1950-1990

Million Troy Ounces

	<u>Australia</u>	<u>Canada</u>	<u>Mexico</u>	<u>Peru</u>	<u>United States</u>	<u>Other Market Economies</u>	<u>Total Market Economies</u>	<u>Soviet Union</u>	<u>Other Transitional Economies</u>	<u>Total</u>
1950	10.7	23.2	49.1	13.4	42.5	30.6	169.5	24.0	10.0	203.5
1951	10.8	23.1	43.8	15.0	39.8	33.0	165.5	24.0	10.0	199.5
1952	11.1	25.2	50.4	18.4	39.8	35.7	180.6	24.0	11.0	215.6
1953	12.4	28.3	47.9	19.7	37.6	38.8	184.7	25.0	12.0	221.7
1954	13.8	31.1	39.9	20.4	36.9	36.5	178.6	25.0	12.0	215.6
1955	14.6	28.0	48.0	22.9	37.2	37.0	187.7	25.0	12.0	224.7
1956	14.6	28.4	43.1	23.0	38.9	41.8	189.8	25.0	11.0	225.8
1957	15.7	28.8	47.1	24.8	38.2	40.0	194.6	25.0	10.0	229.6
1958	16.3	31.2	47.6	25.9	34.1	47.2	202.3	25.0	9.0	236.3
1959	15.2	31.9	44.1	27.2	31.2	46.0	195.6	25.0	9.0	229.6
1960	15.2	34.0	44.5	30.8	30.8	46.5	201.8	25.0	8.5	235.3
1961	13.1	31.4	40.3	34.2	34.8	50.1	203.9	25.0	8.0	236.9
1962	17.6	30.7	41.2	33.1	36.8	51.4	210.8	27.0	8.0	245.8
1963	19.6	29.8	42.8	35.2	35.2	51.4	214.0	28.0	8.0	250.0
1964	18.4	29.9	41.7	34.4	36.3	50.8	211.5	29.0	8.0	248.5
1965	17.3	32.3	40.3	36.5	39.8	52.2	218.4	31.0	8.0	257.4
1966	18.9	32.8	42.0	32.8	43.7	55.0	225.2	33.0	8.5	266.7
1967	19.8	37.2	38.3	32.1	32.3	55.0	214.7	35.0	8.5	258.2
1968	21.3	45.0	40.0	36.4	32.7	54.8	230.2	35.0	9.5	274.7
1969	24.5	43.5	42.9	35.9	41.9	60.0	248.7	37.0	10.0	295.7
1970	26.0	44.3	42.8	39.8	45.0	60.6	258.5	41.8	12.1	312.4
1971	21.8	46.0	36.7	38.4	41.6	62.8	247.3	43.3	13.1	303.7
1972	21.9	44.8	37.5	40.2	37.2	67.3	248.9	44.8	16.3	310.0
1973	22.7	47.5	38.8	42.0	37.8	65.2	254.0	46.4	17.2	317.6
1974	21.5	42.8	37.5	34.9	33.8	66.1	236.6	48.0	19.1	303.7
1975	23.3	39.7	38.0	37.5	34.9	65.6	239.0	49.8	21.1	309.9
1976	25.0	41.2	42.6	35.6	34.3	64.2	242.9	49.8	25.3	318.0
1977	27.5	42.2	47.0	39.1	38.2	69.3	263.3	49.8	28.0	341.1
1978	26.1	40.7	50.8	37.0	39.4	72.8	266.8	49.8	31.4	348.0
1979	26.7	36.9	49.4	41.9	37.9	79.2	272.0	49.8	30.5	352.4
1980	25.0	34.4	47.3	43.0	32.3	82.6	264.6	49.8	32.3	346.8
1981	23.9	36.3	53.2	46.9	40.7	86.5	287.5	50.5	28.1	366.1
1982	29.2	42.2	49.8	53.4	40.2	82.3	297.0	51.0	28.4	376.4
1983	33.2	38.7	55.0	55.6	43.4	87.7	313.6	51.4	29.2	394.2
1984	31.3	42.0	63.9	56.5	44.6	89.5	327.8	51.4	32.1	411.2
1985	34.9	38.5	69.2	60.9	39.4	93.1	336.0	52.1	35.1	423.2
1986	32.9	35.0	69.4	61.9	34.2	88.9	322.3	52.4	35.5	410.2
1987	35.9	38.1	69.8	65.9	39.8	91.0	340.5	52.5	35.4	428.4
1988	35.8	44.1	70.0	50.1	53.4	93.0	346.4	53.0	43.2	442.6
1989	37.3	41.3	70.0	59.6	60.8	92.2	361.1	54.0	43.5	458.6
1990	37.8	44.4	64.1	54.8	66.5	98.0	365.6	52.0	43.9	461.5

Notes: Totals may not equal the sums of countries due to rounding.

Sources: CPM Group, industry sources.

Secondary and Other Supplies

Million Troy Ounces

	Secondary				Other		Total Secondary and Other	U.S. Treasury Sales	U.S. Treasury Coinage	Total
	Old Scrap	Demone- tized Coin	Indian Scrap used Domestically	South Asian Exports	Government Disposals	Net Exports from T.E.				
1960	40	10	2	0	12	10	74	22	46	142
1961	43	20	2	0	7	55	127	63	56	246
1962	47	20	2	0	4	25	98	1	77	176
1963	50	15	3	0	10	0	78	25	112	215
1964	54	20	12	0	20	0	106	151	203	460
1965	57	30	16	0	17	9	129	80	320	529
1966	61	28	16	0	10	10	125	143	54	322
1967	59	35	15	17	5	8	139	195	44	378
1968	75	50	16	86	15	0	242	180	37	459
1969	80	50	16	28	0	11	185	89	19	293
1970	55	25	16	31	10	13	150	67	1	218
1971	68	20	16	23	7	0	134	—	—	134
1972	73	15	13	11	12	0	124	—	—	124
1973	72	15	13	22	46	0	168	—	—	168
1974	82	35	15	60	21	0	213	—	—	213
1975	90	20	13	54	15	3	195	—	—	195
1976	92	72	18	53	11	7	253	—	—	253
1977	93	33	18	25	5	8	182	—	—	182
1978	82	21	21	28	9	7	168	—	—	168
1979	130	45	23	18	3	14	233	—	—	233
1980	164	94	23	21	5	13	320	—	—	320
1981	125	18	27	14	4	8	196	—	—	196
1982	111	7	23	14	3	0	158	—	—	158
1983	133	20	23	21	21	-1	217	—	—	217
1984	124	20	21	1	18	-30	154	—	—	154
1985	102	18	21	0	13	-1	153	—	—	153
1986	103	10	16	0	14	-18	125	—	—	125
1987	113	10	15	0	20	6	164	—	—	164
1988	122	9	13	0	8	6	158	—	—	158
1989	125	6	5	0	11	6	153	—	—	153
1990	112	6	0	0	11	6	135	—	—	135

Note: "Government Disposals" includes silver used in coins from stocks and bullion sales from governments other than the United States for the years through 1970. The U.S. Treasury bullion sales and the use of silver from the U.S. Treasury stocks in coins during the 1960s are separated. After 1970, U.S. government bullion sales and use of government stocks in coinage are included in the "Government Disposals" category.

Sources: U.S. Bureau of Mines; Handy & Harman; Samuel Montagu; Silver Institute; trade sources; CPM Group.

Fabrication Demand

Fabrication demand for silver rose sharply in 1990. Silver use is estimated to have reached 525.0 million ounces last year, 6.0% more than the 495.5 million ounces used in 1989. Demand could rise another 2.3% to 537.0 million ounces this year.

The major increase occurred in India. Indian silver demand rose 14.8 million ounces to 41.8 million ounces last year, primarily in jewelry, decorative objects, and sterlingware.

Japanese silver use rose 15.2% last year, to 117.7 million ounces. The largest increases occurred in silver use in photography and coinage. Silver use also rose significantly in the United States, where demand rose 5.8% from 126.8 million ounces in 1989 to an estimated 134.1 million ounces in 1990. European silver use meanwhile rose around 1.4%.

In 1991 silver use is projected to rise another 2.3%, even in the face of recession in several major countries and slow economic growth elsewhere. In total, silver use may reach 537.0 million ounces in 1991. Demand is expected to rise somewhat further in India. Photographic use of

silver meanwhile is projected to rise at a relatively strong pace in the major industrialized economies. Silver use also is expected to rise in electronics and electrical applications, in jewelry, and in sterlingware.

Photography

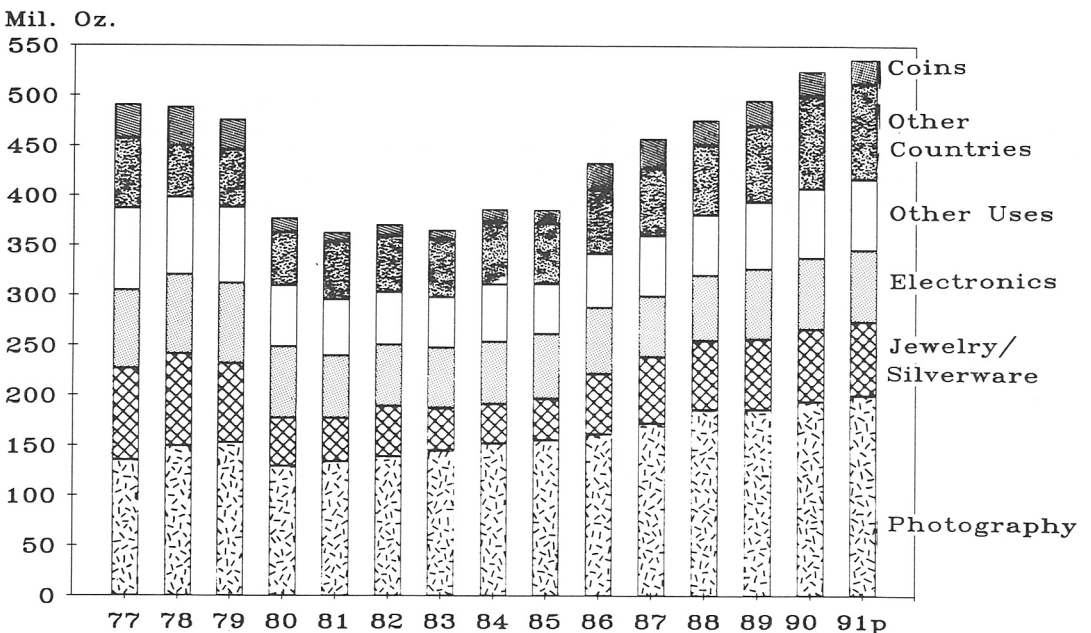
Photographic use of silver is estimated to have risen 4.3% to 194.0 million ounces last year. A further rise, possibly 3% to around 200.0 million ounces, is projected for 1991.

Silver use in photographic chemicals rebounded strongly in Japan last year, following a decline in 1989. Japanese use is estimated at 68.0 million ounces in 1990, up 6.8% from 63.7 million ounces in 1989. U.S. photographic use of silver is estimated at 68.0 million ounces in 1990 as well. This represents a 4.3% rise from 65.2 million ounces in 1989. In Europe, photographic use of silver is estimated to have risen relatively slowly, around 1.6%, last year, from 57.1 million ounces in 1989 to 58.0 million ounces in 1990.

These figures exclude silver use in photo products in other countries. Around 5.6 million

Fabrication Demand by Sector

Annual, data on pages 20-21



ounces are used in India, for example. Silver is used in these products in Australia and other countries for which data are not available.

While overall silver use in photography has been rather bouyant, the use of silver by sector of photography is mixed. Silver's use in standard commercial photography continues to expand at a strong pace, reflecting the overall growth in the number of pictures taken worldwide each year. Silver's per unit use in this segment of the photographic market remains stable, and in fact has risen in recent years.

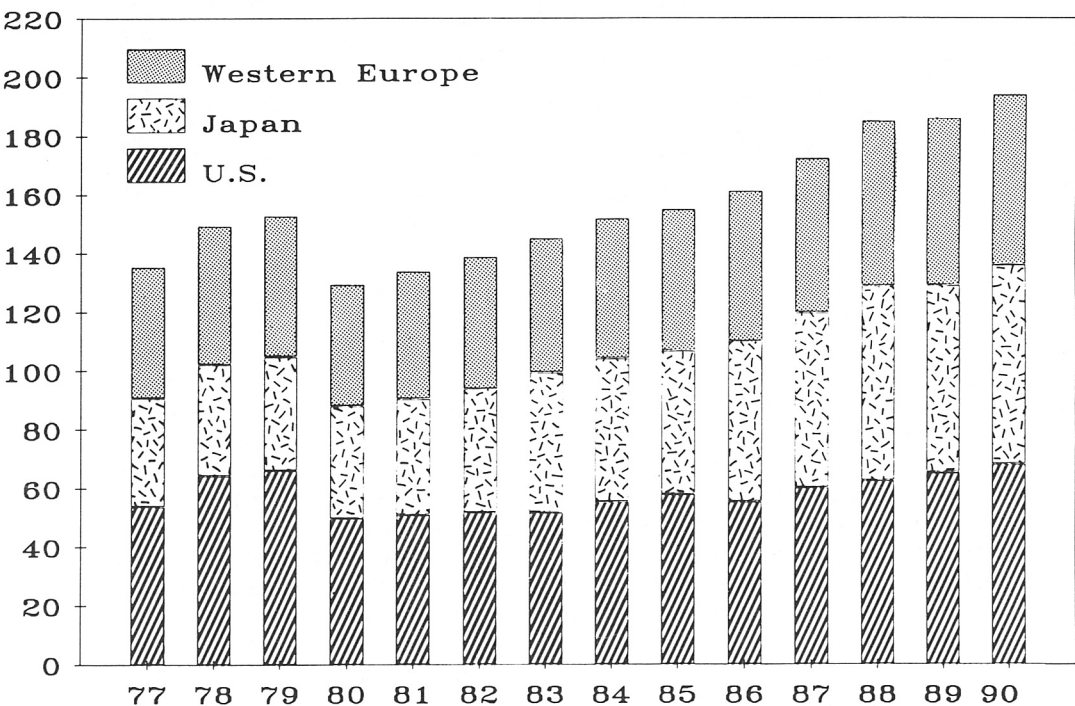
Silver use in other segments of the photographic market, notably industrial x-rays and graphic

arts products, has been less vibrant. As a result, the share of the photographic market that represents commercial photography appears to have increased slightly in the past year. Amateur and professional photography may have accounted for 49% of the use of silver in the industrialized nations, or around 95.1 million ounces. Medical x-ray use continues to grow, and, at 21% of this industry's silver use, may have reached 40.7 million ounces in 1990. Another 40.7 million ounces, or 21%, of this industry's silver use is estimated to have gone into graphic arts applications, while industrial and dental x-rays are estimated to have used around 17.5 million ounces, or 9% of last year's silver use in photography.

Photographic Demand for Silver

Annual, 1977 through 1990

Mil. Oz.



Electronics and Electrical Equipment

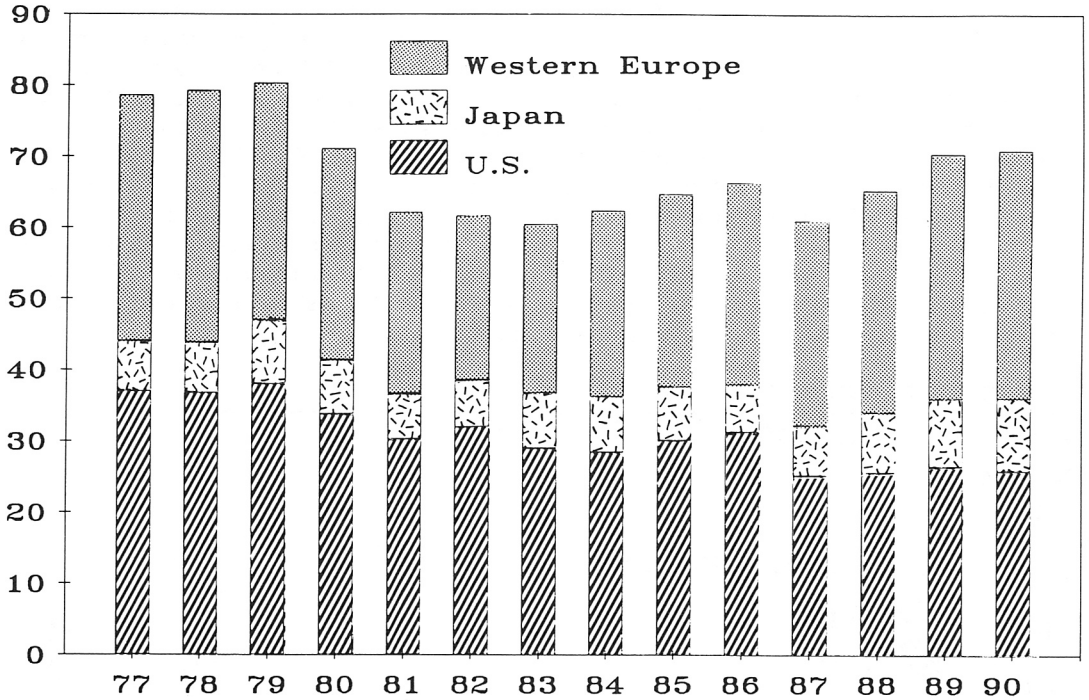
Silver use in electronic and electrical equipment is estimated to have risen less than 1% to 71.1 million ounces in 1990. A further 1% rise to around 72.0 million ounces is projected for this year.

In 1990 U.S. use in this industry is estimated to have declined around 2% from 26.3 million ounces to 25.8 million ounces. Japanese demand meanwhile is estimated to have risen 6% from 9.5 million ounces to 10.1 million ounces, while European use of silver in electronics and electrical equipment is estimated to have risen

Electronics Demand for Silver

Annual, 1977 through 1990

Mil. Oz.



about 1% from 34.8 million ounces to 35.2 million ounces.

Several major economies are suffering through a recession at present, and most of those that are not in a formal recession are experiencing sharp declines in their rates of overall economic growth. These conditions have limited silver use in electrical appliances. Even so, silver use in electronics, as a substitute for more expensive metals, is offsetting much of this decline. These conflicting pressures on silver use in electronics and electrical applications are expected to result in a small increase in silver use in these industries again in 1991.

Jewelry and Silverware

Silver use in jewelry and silverware totaled an estimated 72.7 million ounces in 1990, 3.8% more than the 70.1 million ounces used in these applications in 1989. Silver use rose in the United States, Europe, and Japan. In 1991 silver use in jewelry and silverware is expected to rise a more moderate 1.8%, reflecting reduced dis-

posable income in many major economies. For the year 1991, total silver use in these products may reach 74 million ounces.

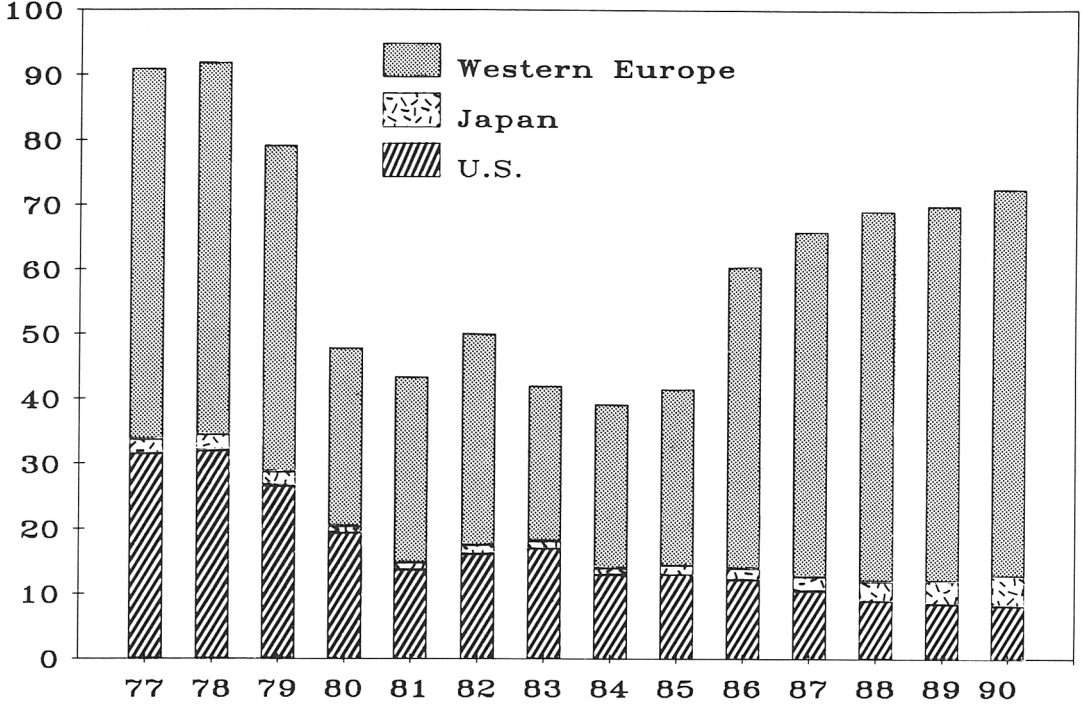
One trend that emerged in the first four months of 1991 has been a shift in the manufacturing location of silver jewelry destined for U.S. consumers. In recent years, a growing proportion of the silver jewelry purchased at the retail level in the United States has been manufactured overseas. In early 1991, some U.S. jewelry companies that had contracted this production to foreign manufacturers were bringing at least part of their production back into the United States. Due to this shift, U.S. fabrication of silver jewelry was rising, even as demand for the actual products was sagging in the United States.

Efforts have been undertaken to distinguish silver use in jewelry from silver use in sterlingware and silverplated objects. As discussed below, U.S. demand statistics now are divided along these lines. Additionally, statistics on Italian fabrication demand have been divided among these three sectors. Efforts to break down silver

Jewelry and Silverware Demand

Annual, 1977 through 1990

Mil. Oz.



use in other countries in Europe and elsewhere have been slower.

States and another significant portion has gone to other European markets.

The bulk of silver use in Italy is in sterlingware, as the new data shows. Silver use in sterlingware manufactured in Italy totaled 24.1 million ounces last year. This compares with 5.5 million ounces used in jewelry and around 400,000 ounces used in silverplated items. Indeed, over the past few years around 75%-80% of the silver used in jewelry and silverware in Italy has been in sterling silver. The majority of this sterling tableware has been sold into the domestic Italian market, although 10%-20% may have gone to the United

While it is too early to publish statistical series breaking down silver use in jewelry and sterlingware in other countries, there are some indications of conditions elsewhere in Europe. In contrast to Italy, where the majority of silver use is in sterlingware, in Germany and France jewelry is the major consumer of silver, with sterlingware being relatively less important. In Germany, perhaps 10.0 to 10.5 million ounces of silver was used in jewelry last year, while sterlingware took between 2.7 and 3.5 million ounces.

Silver Coinage

Million Troy Ounces

	<u>United States</u>	<u>Canada</u>	<u>Austria</u>	<u>France</u>	<u>West Germany</u>	<u>Mexico</u>	<u>Other</u>	<u>Total</u>
1960	46.0	7.5	-i-	12.2	-i-	-i-	38.2	103.9
1961	56.0	5.1	-i-	23.8	-i-	-i-	51.1	136.0
1962	78.0	10.9	-i-	13.7	-i-	-i-	25.0	127.6
1963	112.0	13.0	-i-	12.2	-i-	-i-	29.2	166.4
1964	203.0	13.7	-i-	10.7	-i-	-i-	39.7	267.1
1965	320.3	24.4	2.7	7.2	2.7	-i-	27.8	385.1
1966	53.6	15.5	3.3	8.7	2.9	-i-	45.5	129.5
1967	43.8	8.8	3.2	9.6	3.1	-i-	36.8	105.3
1968	36.8	7.4	2.2	2.9	4.2	-i-	35.8	89.3
1969	19.6	0.0	1.9	0.7	2.9	-i-	7.6	32.7
1970	0.7	0.0	4.0	3.5	7.4	-i-	7.8	23.4
1971	2.5	0.2	3.2	0.4	19.2	-i-	2.3	27.8
1972	2.3	0.1	5.8	0.3	22.6	-i-	7.0	38.1
1973	0.9	6.6	6.3	0.1	7.0	-i-	7.6	28.5
1974	1.0	9.0	5.7	3.6	7.6	-i-	4.7	31.6
1975	2.7	10.4	9.1	1.8	5.4	-i-	4.0	33.4
1976	1.3	8.4	6.9	6.2	1.8	-i-	5.4	30.0
1977	0.1	0.5	8.9	7.1	4.6	4.2	9.1	34.5
1978	0.0	1.0	9.6	9.0	3.6	6.6	9.7	39.5
1979	0.2	0.8	4.0	10.6	3.7	5.0	6.7	31.0
1980	0.1	0.2	2.3	0.1	0.0	6.1	6.2	15.0
1981	0.2	0.3	3.1	0.1	0.5	0.0	5.3	9.5
1982	1.8	0.3	4.5	1.4	0.3	0.0	3.7	12.0
1983	2.1	0.4	1.8	2.2	0.0	0.0	3.7	10.2
1984	2.0	0.3	2.4	3.9	0.0	2.5	2.6	13.7
1985	0.4	0.3	4.6	2.2	0.0	3.5	2.4	13.4
1986	10.3	1.3	1.1	2.2	0.0	2.0	9.9	26.8
1987	12.2	1.2	3.1	2.2	3.2	2.3	6.2	30.4
1988	7.9	1.1	2.0	2.2	3.2	2.0	6.9	25.3
1989	6.8	3.3	2.1	2.2	3.2	1.7	7.0	26.3
1990	9.0	1.7	0.6	-i-	-i-	1.5	12.2	25.0

Notes: Excludes transitional economies, where silver coins generally are not made.

i—included in Other.

Sources: U.S. Bureau of Mines; Energy, Mines, and Resources Canada; Silver Institute; Handy & Harman; Bank of Mexico; trade sources; CPM Group.

Annual Industrial Use

Million Troy Ounces

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>
Photography						
United States	53.7	64.3	66.0	49.8	51.0	51.8
Japan	37.0	37.9	38.8	38.2	39.5	42.1
Western Europe	44.7	47.2	47.9	41.4	43.2	44.9
Subtotal	135.4	149.4	152.7	129.4	133.7	138.8
% of Total	29.6%	33.3%	34.3%	35.7%	37.8%	38.6%
% Change Year Ago ..	—	10.3	2.2	(15.3)	3.3	3.8
Jewelry and Silverware						
United States	31.6	32.0	26.6	19.4	13.7	16.2
Japan	2.2	2.5	2.2	1.0	1.1	1.3
Western Europe	57.2	57.4	50.3	27.5	28.7	32.7
Subtotal	91.0	91.9	79.1	47.9	43.5	50.2
% of Total	19.9%	20.5%	17.8%	13.2%	12.3%	14.0%
% Change Year Ago ..	—	1.0	(13.9)	(39.4)	(9.2)	15.4
Electronics and Batteries						
United States	37.1	36.8	38.1	33.8	30.2	31.9
Japan	6.9	7.0	8.9	7.6	6.4	6.6
Western Europe	34.7	35.5	33.4	29.8	25.6	23.2
Subtotal	78.7	79.3	80.4	71.2	62.2	61.7
% of Total	17.2%	17.7%	18.1%	19.6%	17.6%	17.2%
% Change Year Ago ..	—	0.8	1.4	(11.4)	(12.6)	(0.8)
Other Uses						
United States	31.2	27.1	26.6	21.8	21.8	19.1
Japan	17.1	17.5	18.9	14.7	12.6	13.2
Western Europe	33.4	32.9	30.4	24.5	21.8	20.3
Subtotal	81.7	77.5	75.9	61.0	56.2	52.6
% of Total	17.9%	17.3%	17.1%	16.8%	15.9%	14.6%
% Change Year Ago ..	—	(5.1)	(2.1)	(19.6)	(7.9)	(6.4)
Other Countries	70.0	51.0	57.0	53.0	58.0	56.0
% of Total	15.3%	11.4%	12.8%	14.6%	16.4%	15.6%
% Change Year Ago ..	—	(27.1)	11.8	(7.0)	9.4	(3.4)
Total	456.8	449.1	445.1	362.5	353.6	359.3
% Change Year Ago	—	-1.7%	-0.9%	-18.6%	-2.5%	1.6%

Notes: Totals may not equal the sums of the categories due to rounding.

Excludes transitional economies. Excludes coins.

Source: CPM Group.

World Silver Survey

Fabrication Demand

<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
51.8	55.3	57.9	55.4	60.2	62.5	65.2	68.0
47.6	48.9	49.0	54.6	59.6	66.3	63.7	68.0
45.6	47.6	48.1	51.1	52.6	57.0	57.1	58.0
145.0	151.8	155.0	161.1	172.4	185.8	186.0	194.0
40.8%	40.7%	41.6%	39.6%	40.3%	41.2%	39.7%	38.8%
4.5	4.7	2.1	3.9	7.0	7.8	0.1	4.3
17.1	13.0	13.0	12.3	10.5	9.0	8.5	8.3
1.1	1.0	1.4	1.7	2.2	3.0	3.5	4.4
23.9	25.3	27.3	46.5	53.3	57.3	58.1	60.0
42.1	39.3	41.7	60.5	66.0	69.3	70.1	72.7
11.9%	10.5%	11.2%	14.9%	15.4%	15.4%	14.9%	14.5%
(16.1)	(6.7)	6.1	45.2	9.1	5.0	1.1	3.8
28.9	28.3	30.0	31.1	25.2	25.5	26.3	25.8
7.7	7.8	7.5	6.8	7.0	8.4	9.5	10.1
23.8	26.2	27.2	28.5	28.9	31.5	34.8	35.2
60.4	62.3	64.7	66.4	61.1	65.3	70.6	71.1
17.0%	16.7%	17.4%	16.4%	14.3%	14.5%	15.0%	14.2%
(2.1)	3.1	3.9	2.7	-8.0	6.9	8.0	0.7
18.5	18.3	17.7	20.1	19.4	15.0	20.0	23.0
15.7	21.1	14.7	15.5	23.4	26.2	25.5	26.3
16.5	18.3	17.8	18.4	17.7	19.1	20.9	20.0
50.7	57.7	50.2	54.0	60.5	60.3	66.4	69.3
14.3%	15.5%	13.5%	13.3%	14.1%	13.4%	14.1%	13.9%
(3.6)	13.8	(13.0)	7.6	12.0	-0.3	10.1	4.4
57.0	61.6	60.9	64.3	68.1	69.9	76.1	92.9
16.0%	16.5%	16.3%	15.8%	15.9%	15.5%	16.2%	18.6%
1.8	8.1	(1.1)	5.6	5.9	2.6	8.9	22.1
355.2	372.7	372.5	406.4	428.1	450.6	469.2	500.0
-1.1%	4.9%	-0.1%	9.1%	5.3%	5.3%	4.1%	6.6%

Investment Demand

Investor attitudes toward silver began to shift in the first quarter of 1991, from disaffection toward renewed interest. This shift was being observed across the full spectrum of investors—commodity and mutual funds, large individual investors, and smaller investors all seemed to be taking a new look at silver.

Overall, there was increasing evidence that long-term investors were purchasing substantial amounts of silver once again in early 1991. This nascent revival was a cautious one, however; there were indications that, should silver prices resume their downward move in mid-1991, investors might pull back from silver buying once again.

As usual, investor interest was most visible in the United States, although there were reports of large physical silver purchases for investment purposes in Switzerland, especially in March and April. This demand appeared to be originat-

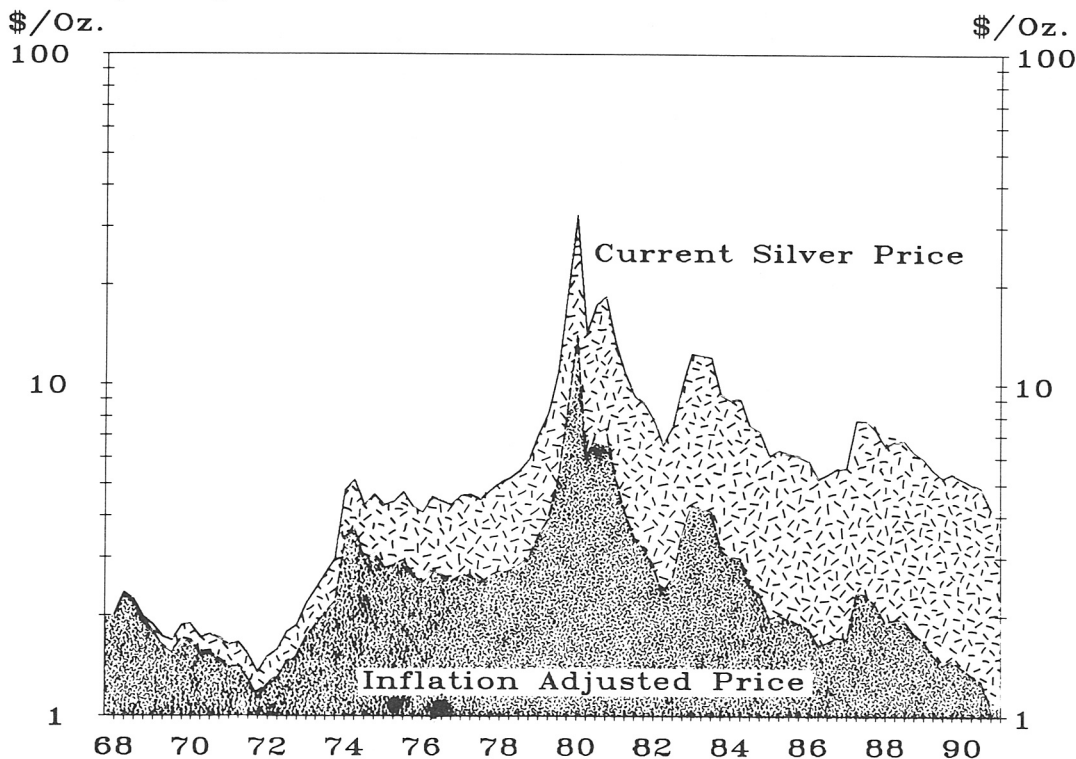
ing in the Middle East, and appeared after the end of the Persian Gulf war.

In the New York futures and options market, several large commodity funds undertook successful short-term bullish trading strategies during the first quarter of 1991. This demonstrated to other participants in these markets that silver could be traded profitably by adopting a bullish strategy, in contrast to the bearish strategies that have been used by these trading groups in silver in recent years.

Small investors also re-entered the silver market, beginning in late 1990. As of April 1991, this interest was seen mostly in the coin market. Sales of American Eagle coins totaled 3,915,000 ounces in the first quarter of 1991, an increase of 42% from 2,750,000 ounces in the same period a year ago. This demand has no direct affect on the physical silver market's supply/demand balance, however, since the American Eagle program uses U.S. government stocks as its supply

Current and Inflation-Adjusted Prices

Quarterly, through First Quarter 1991



source. Increased demand for American Eagles is met with additional withdrawals of stockpile silver, rather than with higher purchases of bullion in the market.

Mexican coin sales also increased significantly in early 1991. Such sales could total 2.0 million ounces in 1991, one third higher than the 1990 figure. Sales of the Canadian Maple Leaf were somewhat higher during the same period.

There also was evidence of strong physical demand from a number of large private investors in early 1991, with indications that at least some wealthy individuals and private banks were buying large amounts of physical silver based on a long-term positive view toward the metal. This buying was reflected in changes in the composition of silver stocks held in New York bank vaults.

The vast majority of silver inventories held in bank vaults around the world are unreported. Banks in Switzerland, England, and Delaware are known to hold large amounts of silver, much of it owned by investors.

Information on exactly how much silver is in these vaults is not released by the banks, however.

In New York, the situation is different, due to the

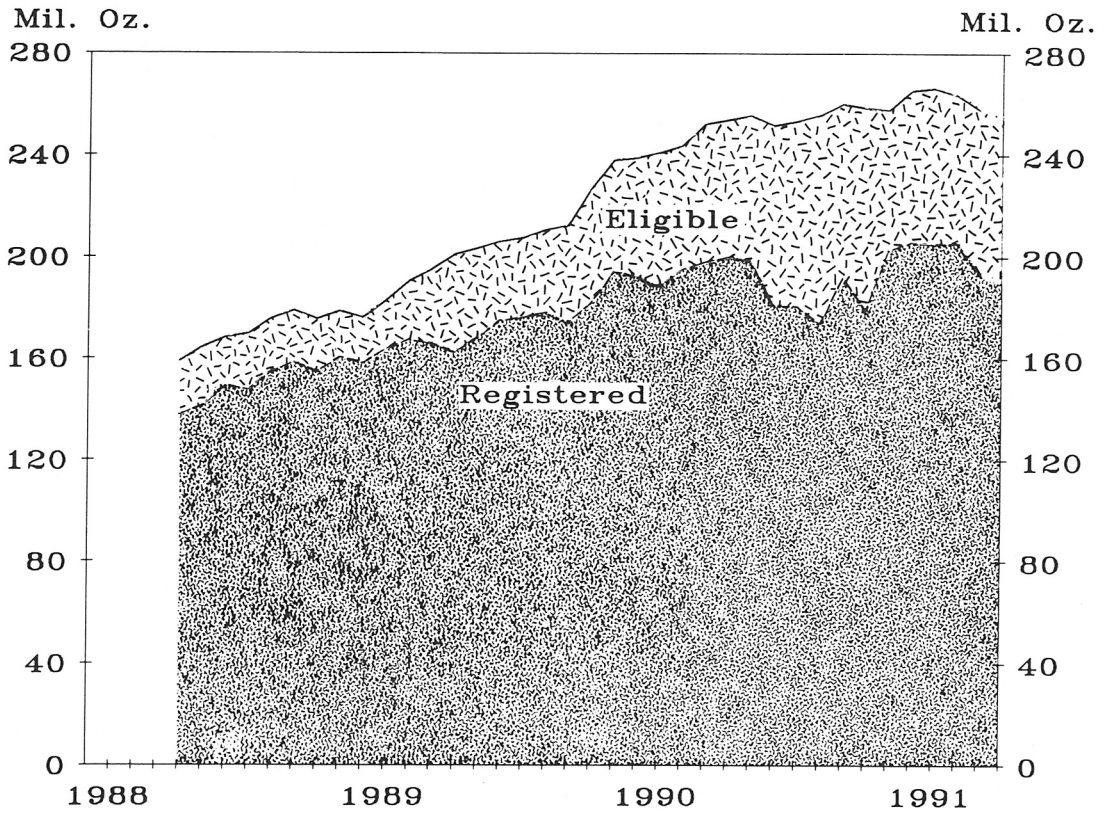
presence of the New York Commodity Exchange, which has silver futures and options contracts. New York banks that are registered to store silver for delivery against Comex contracts are required to report the levels of silver inventories held in their vaults. These stock levels are divided into two categories: That amount of silver that is in fact registered against Comex positions; and that amount of silver that meets Comex's specifications, but actually is not registered against any given Comex position. The latter amount of silver largely is held by long-term investors.

There has been a moderate decline in total reported New York bank silver stocks since the beginning of 1991, from around 267.0 million ounces to 262.0 million ounces. Significantly, however, there has been a sharp increase in the amount of silver held in these vaults that is eligible, but not registered, for use against Comex positions. In other words, there has been a stocking up of silver by long-term investors. These stocks increased more than 15.0 million ounces, to 74.5 million ounces, from mid-March to mid-April alone.

Meanwhile, stocks registered against Comex positions have declined from a peak of 206.5 in mid-January, to 187.0 million ounces in mid-April, their lowest level since October 1990.

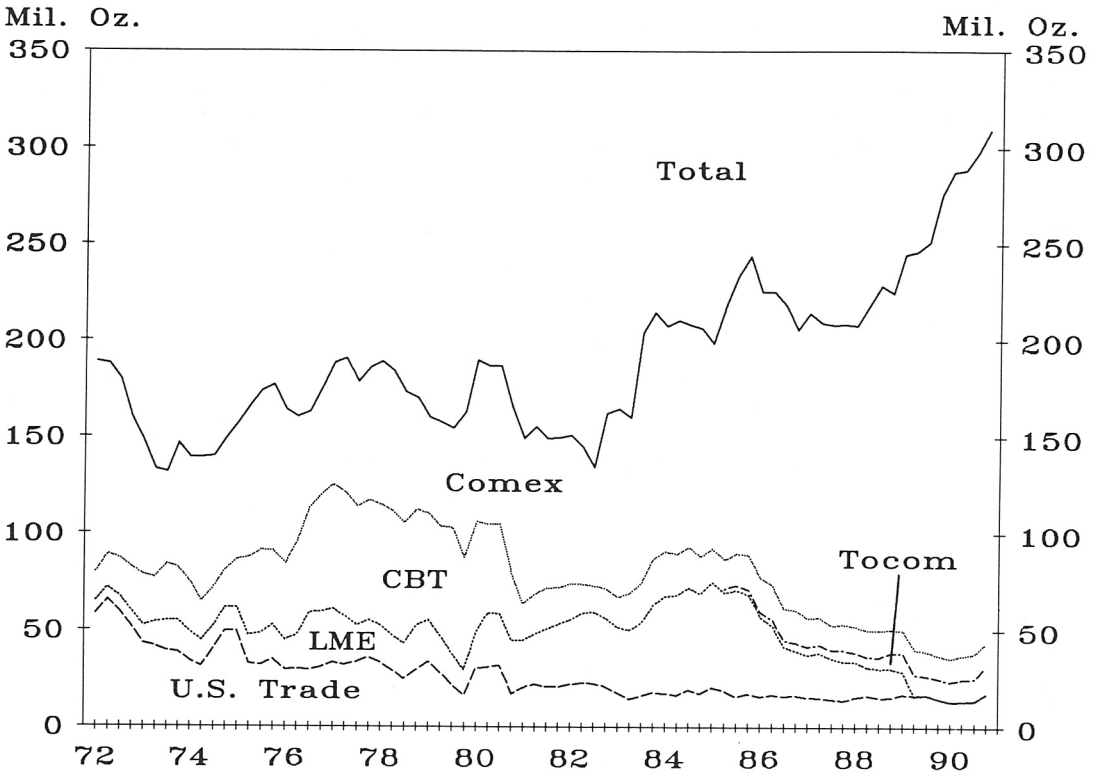
Comex Registered and Eligible Stocks

Monthly, Through March 1991



Market Inventories

Quarterly, Through First Quarter 1991



Country Survey: The United States

Total fabrication demand in the United States, which includes coinage, rose 5.8% to 134.1 million ounces. Silver use in the industrial applications is estimated to have risen 4.3% to 125.1 million ounces last year. Most of the increase occurred in the photographic industry, and, within that industry, in the area of 35 mm consumer photography, where unit growth continues to expand.

Efforts have been made to more accurately measure silver demand levels in the United States. As a result, the attached table divides fabrication demand statistics into more individual industries than was possible until recently.

One conclusion supported by this research has been the extent to which the growth in international trade of silver-bearing manufactured goods has reduced the value of looking merely

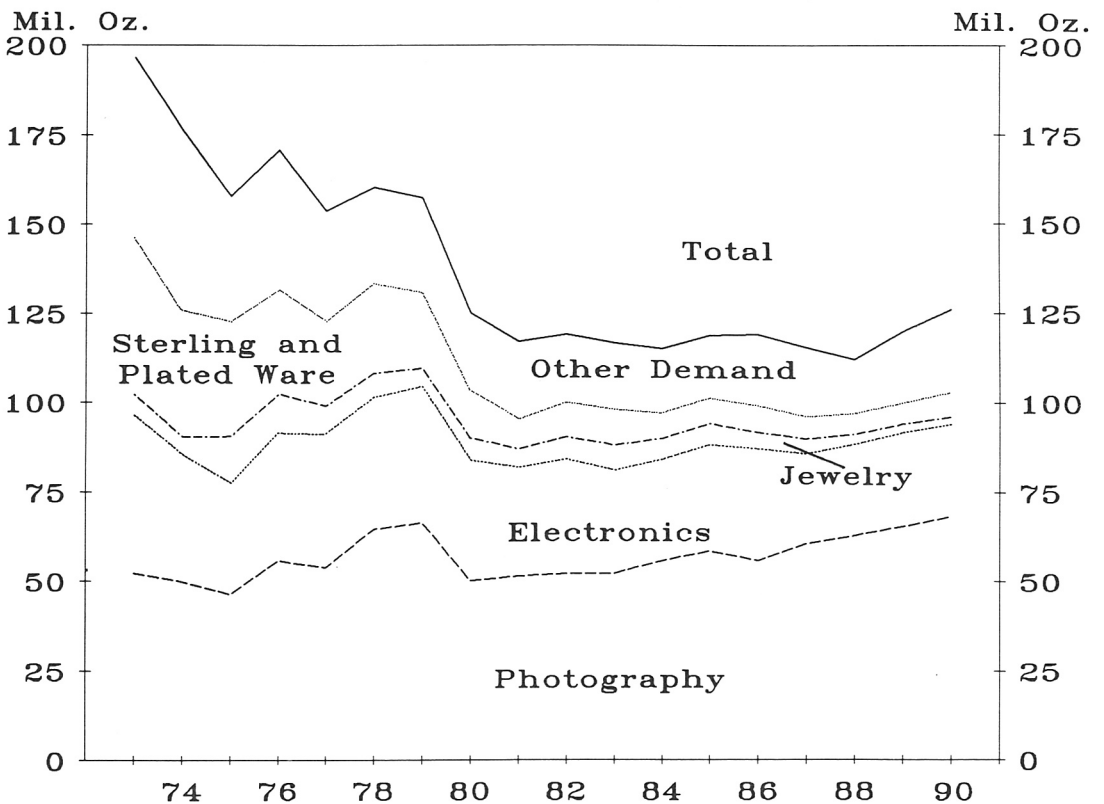
at a single nation's silver supply and use patterns. In the case of the United States, the demand for silver jewelry and sterlingware at the consumer level has risen sharply since the mid-1980s. However, much of this growth in consumer purchases has been met with silver jewelry and sterlingware manufactured outside of the United States. The discussion of U.S. imports of these goods later in this section shows the sharp increase in these imports.

The table shows that silver use in electrical contacts and connectors is estimated to have declined around 3%, to 22.8 million ounces in 1990. Silver use in batteries meanwhile is estimated to have risen 7%, to around 3.0 million ounces from 2.8 million ounces in 1989.

Silver use in jewelry, sterlingware, and silver-plate has been divided by industries. Silver use

U.S. Industrial Demand

Annual, data on pages 28-29



in sterlingware and silverplate is estimated to have risen slightly, to 3.5 million ounces and 2.8 million ounces, respectively, in 1990. Silver use in the fabrication of jewelry in the United States meanwhile is estimated to have fallen from 2.4 million ounces in 1989 to around 2.0 million ounces in 1990. As just stated, the actual consumption of silver jewelry has been rising sharply in the United States; much of this growth

in consumer demand has been met with imported jewelry.

Silver use in other industries, including dental alloys, medical salves, mirrors, bearings, brazing alloys, and solders, is estimated to have risen from 20.0 million ounces in 1989 to 23.0 million ounces last year.

Annual U.S. Fabrication Demand, 1973-1984

Million Troy Ounces

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>
Photography	52.0	49.6	46.1	55.5	53.7	64.3
Electrical Contacts and Conductors	40.2	31.3	27.2	32.3	31.3	30.8
Batteries	4.2	4.2	4.3	3.5	5.8	6.0
Sterling Ware	29.4	22.1	23.7	19.8	16.7	17.9
Jewelry	5.8	5.1	12.7	11.0	8.1	6.8
Silverplate	14.5	13.2	8.7	9.5	6.8	7.3
Brazing Alloys and Solders	17.7	14.5	13.6	11.2	12.4	11.0
Catalysts	6.0	7.3	8.8	12.3	8.9	8.2
Medallions and Commemorative Objects	20.1	21.4	7.2	8.2	4.3	2.7
Dental and Medical Supplies	3.0	2.4	1.5	1.9	2.2	2.0
Mirrors	2.6	3.9	3.2	4.6	2.1	1.9
Bearings	0.4	0.4	0.5	0.3	0.5	0.4
Miscellaneous	0.5	0.5	0.3	0.3	0.9	1.0
Total Industrial	196.4	176.0	157.7	170.6	153.6	160.2
Coinage	0.9	1.0	2.7	1.3	0.1	0.0
Total Fabrication	197.3	177.0	160.4	171.9	153.7	160.2
	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
Photography	66.0	49.8	51.0	51.8	51.8	55.3
Electrical Contacts and Conductors	33.5	27.8	26.4	27.7	26.3	25.6
Batteries	4.6	6.0	3.8	4.2	2.6	2.7
Sterling Ware	13.1	9.1	4.4	6.6	7.0	3.6
Jewelry	5.4	5.9	5.4	6.3	6.9	5.8
Silverplate	8.1	4.4	3.9	3.3	3.2	3.5
Brazing Alloys and Solders	10.9	8.5	7.7	7.4	5.8	5.9
Catalysts	5.6	3.0	3.8	2.4	2.4	2.4
Medallions and Commemorative Objects	4.7	4.7	2.6	1.8	3.0	2.6
Dental and Medical Supplies	2.3	2.2	1.7	1.7	1.5	1.6
Mirrors	1.9	0.7	0.6	1.0	1.0	1.0
Bearings	0.3	0.6	0.3	0.2	0.2	0.3
Miscellaneous	1.0	2.0	5.0	4.6	4.6	4.6
Total Industrial	157.3	124.7	116.7	118.8	116.3	114.8
Coinage	0.2	0.1	0.2	1.8	2.1	2.7
Total Fabrication	157.4	124.8	116.8	120.7	118.4	117.5

Notes: Totals may not equal the sums of components due to rounding. Categories marked with dashes are included in miscellaneous.

Sources: U.S. Bureau of Mines, trade sources, CPM Group.

Annual U.S. Fabrication Demand, 1985-1990

Million Troy Ounces

	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
Photography	57.9	55.4	60.2	62.5	65.2	68.0
Electrical Contacts and Conductors	27.5	27.4	22.7	23.0	23.5	22.8
Batteries	2.5	3.7	2.4	2.5	2.8	3.0
Sterling Ware	3.5	3.9	3.8	3.5	3.4	3.5
Jewelry	5.8	4.6	4.2	2.9	2.4	2.0
Silverplate	3.7	3.7	2.5	2.6	2.7	2.8
Brazing Alloys and Solders	5.6	6.4	5.6	—	—	—
Catalysts	2.4	2.3	2.4	—	—	—
Medallions and Commemorative Objects	2.5	4.0	4.2	—	—	—
Dental and Medical Supplies	1.5	1.5	1.3	1.4	1.7	1.8
Mirrors	1.0	1.0	1.0	1.1	1.1	1.0
Bearings	0.2	0.4	0.3	—	—	—
Miscellaneous	4.6	4.6	4.5	12.5	17.2	20.2
Total Industrial	118.6	118.9	115.3	112.0	120.0	125.1
Coinage	0.4	10.3	12.2	7.9	6.8	9.0
Total Fabrication	118.9	129.2	127.5	119.9	126.8	134.1

Notes: Totals may not equal the sums of components due to rounding. Categories marked with dashes are included in miscellaneous.

Sources: U.S. Bureau of Mines, trade sources, CPM Group.

Imports of Sterlingware and Jewelry into the United States

As discussed earlier, consumer purchases of silver jewelry and sterlingware have been rather strong over the past few years in the United States. This has not been readily reflected in the data for U.S. silver use, however, since many of these items have been made overseas. Unfortunately, good trade statistics on the flow of these products is not available. The following four charts and three tables show what data are available from the U.S. Census Bureau, which collects this information.

A good deal of silver is used in Italy by jewelers and silversmiths for export to other countries. Companies engaged in this trade estimate that possibly 10%-20% of Italian jewelry and sterlingware is for the U.S. market. In addition to Italy, the United States has taken considerable amounts of silver jewelry from Asia.

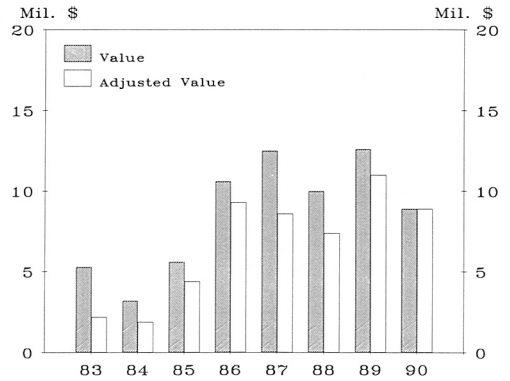
Several points are worth noting in the U.S. government trade data. For one thing, imports of silver-bearing jewelry, sterlingware, and decorative items have increased sharply since the mid-1980s.

The Census Bureau data primarily measures imports on a value basis, as opposed to the number of items imported or the silver content of these items. In some cases the number of items imported is registered, but here the continuity is spotty at best. When examining the value data, one has to be aware that the fluctuating prices of silver and silverbearing items distort the data. For this reason, the tables and charts here show not only the value of imports on an annual basis, but also the value of these imports adjusted in a way to remove any effects of fluctuating silver prices.

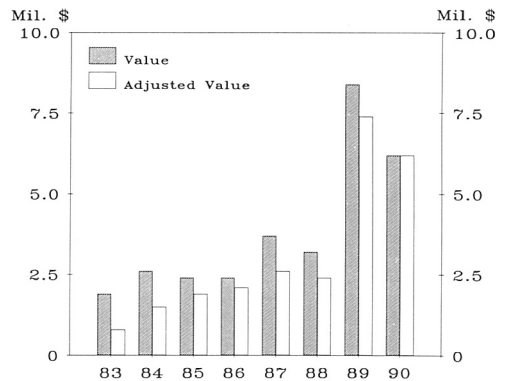
The result of this adjustment is dramatic. Over the long-run, the value of imported silver-bearing products has risen strongly, even looking at the nominal value. Adjusting for silver price changes, the growth has been even more dramatic.

Sterling silver imports, for example, have risen four-fold, from around \$2 million per year in the mid-1980s to around \$8.4 million in 1989. Adjusting for the fact that silver prices have fallen

U.S. Jewelry Imports



U.S. Sterlingware Imports



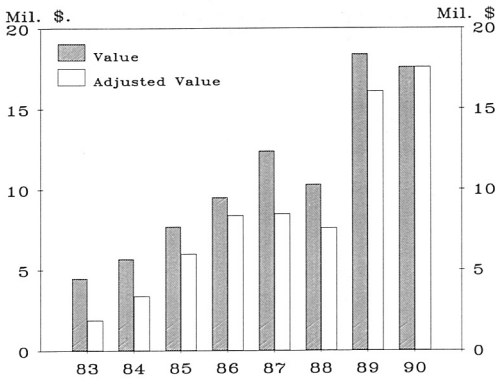
during this time, the increase is shown to have been nine-fold.

The same is true for the other categories shown here:

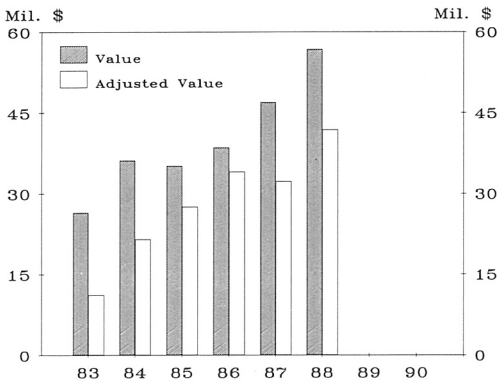
Sterling decorative items rose in nominal dollar terms from \$4.5 million in 1983 to \$18.4 million in 1989 and \$17.6 million in 1990. Adjusted to remove silver price variations, shipments in 1990 were nine times the level of 1983 shipments.

U.S. Imports of Decorative Items

Sterling



Silverplated



Note: Data for silverplated decorative items not available for 1989 and 1990.

Imported silverplated decorative objects doubled in value, from \$26.5 million in 1983 to \$56.8 million. Adjusted to compensate for declining silver prices, these shipments rose four-fold between 1983 and 1988, the last year in which the Census Bureau collected this data.

Jewelry imports rose from a low of \$3.2 million in 1984 to \$12.5 million in 1987, and since then have remained above \$8.9 million. On an adjusted basis, imports rose five-fold from 1984 to 1989.

One final point of interest about the Census Bureau data is the extent to which information is missing. For example, on the jewelry table it can be seen that most of the information that the Census Bureau collects is for silver jewelry, the value of which is less than \$18 per dozen pieces. However, since 1989 the Census Bureau also has collected statistics on silver jewelry of greater value, which has been 13 to 19 times greater than the lower-priced imports. Similarly, silverplated decorative items are much greater in value than are sterling decorative items, yet the Census Bureau stopped collecting data on silverplated items in 1988, when it moved to the internationally accepted unified classification system for trade data.

U.S. Jewelry Imports

Annual Data

	<u>Quantity</u>	<u>Value</u> US\$Mil.	<u>Average</u> <u>Annual</u> <u>Silver Prices</u>	<u>Value, Indexed</u> <u>To Remove</u> <u>Price Variations</u>	<u>Percent</u> <u>Change</u>
Jewelry, valued at less than \$18 per dozen pieces.					
1983	824,630	5.3	\$11.44	2.2	
1984	NA	3.2	8.13	1.9	-13.5%
1985	844,598	5.6	6.14	4.4	128.3%
1986	1,390,985	10.6	5.47	9.3	111.8%
1987	1,554,202	12.5	7.01	8.6	-7.7%
1988	1,328,929	10.0	6.53	7.4	-13.7%
1989	NA	12.6	5.50	11.0	48.6%
1990	NA	8.9	4.82	8.9	-19.3%
More extensive trade data, available since 1989.					
1989			5.50		
Chains & Semi-fab	NA	2.9		2.5	
Jewelry, <\$18/Dzn.	NA	12.6		11.0	
Jewelry, >\$18/Dzn.	NA	163.3		143.1	
Total	NA	178.8		156.7	
1990			4.82		
Chains & Semi-fab	NA	1.9		1.9	-25.0%
Jewelry, <\$18/Dzn.	NA	8.9		8.9	-19.3%
Jewelry, >\$18/Dzn.	NA	170.5		170.5	19.1%
Total	NA	181.2		181.2	15.7%

Notes: From 1983 through 1988, the annual figure represents only imports of silver jewelry valued at less than \$18 per dozen pieces.

Sources: U.S. Census Bureau, CPM Group.

U.S. Sterlingware Imports

Annual Data

	<u>Quantity</u>	<u>Value</u> US\$Mil.	<u>Average</u> <u>Annual</u> <u>Silver Prices</u>	<u>Value, Indexed</u> <u>To Remove</u> <u>Price Variations</u>	<u>Percent</u> <u>Change</u>
1983	NA	1.9	\$11.44	0.8	
1984	NA	2.6	8.13	1.5	94.6%
1985	2,803,852	2.4	6.14	1.9	21.6%
1986	NA	2.4	5.47	2.1	13.1%
1987	NA	3.7	7.01	2.6	22.3%
1988	NA	3.2	6.53	2.4	-7.3%
1989	NA	8.4	5.50	7.4	210.4%
1990	NA	6.2	4.82	6.2	-15.7%
More extensive trade data, available since 1989.					
1989			5.50		
Knives	27,651	0.8		0.7	
Forks	28,442	1.1		1.0	
Spoons and Ladles	47,008	1.1		1.0	
Sets	1,372,903	1.3		1.2	
Miscellaneous	NA	4.1		3.6	
Total		8.4		7.4	
1990			4.82		
Knives	19,008	0.7		0.7	1.4%
Forks	32,629	0.7		0.7	-29.6%
Spoons and Ladles	36,283	0.7		0.7	-26.8%
Sets	NA	0.7		0.7	-43.2%
Miscellaneous	NA	3.5		3.5	-3.0%
Total		6.2		6.2	-15.7%

Notes: From 1983 through 1988, only total sterling silver tableware imports were reported, with no breakdown by category.

Sources: U.S. Census Bureau, CPM Group.

U.S. Imports of Decorative Items

Annual Data

	<u>Value</u> US\$Mil.	<u>Average</u> <u>Annual</u> <u>Silver Prices</u>	<u>Value, Indexed</u> <u>To Remove</u> <u>Price Variations</u>	<u>Percent</u> <u>Change</u>
<u>Sterling items</u>				
1983	4.5	\$11.44	1.9	
1984	5.7	8.13	3.4	78.2%
1985	7.7	6.14	6.0	78.9%
1986	9.5	5.46	8.4	38.7%
1987	12.4	7.01	8.5	1.7%
1988	10.3	6.53	7.6	-10.8%
1989	18.4	5.50	16.1	112.1%
1990	17.6	4.82	17.6	9.1%
<u>Silverplated items</u>				
1983	26.5	\$11.44	11.2	
1984	36.2	8.13	21.5	92.2%
1985	35.2	6.14	27.6	28.8%
1986	38.6	5.46	34.1	23.3%
1987	47.0	7.01	32.3	-5.2%
1988	56.8	6.53	41.9	29.7%

Notes: Quantities of items not provided for these series. After 1988, data for silverplated items no longer was available, having been replaced by "precious metals plated" statistics, which included gold and other precious metals plated objects.

Sources: U.S. Census Bureau, CPM Group.

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Mine Production By Country

Thousand Troy Ounces

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Africa												
Algeria	100	100	110	110	120	120	120	120	120	120	120	100
Ghana	20	18	17	17	14	14	14	20	25	25	25	25
Morocco	3,283	3,154	2,120	2,640	2,850	2,409	2,733	1,566	4,300	7,273	8,300	12,100
Namibia	3,617	3,365	3,456	3,150	3,532	3,255	3,400	3,981	3,331	3,472	4,437	2,900
South Africa	3,238	7,458	7,569	6,943	6,513	6,997	6,721	7,143	7,201	5,760	5,720	5,700
Tunisia	231	233	85	117	90	85	26	30	30	30	30	30
Zaire	3,420	2,535	2,575	1,905	1,288	1,499	1,520	1,499	1,400	1,400	1,499	2,700
Zambia	914	764	715	887	933	794	625	842	962	942	890	640
Zimbabwe	978	948	858	919	938	892	800	843	817	895	774	710
Total	15,801	18,575	17,505	16,688	16,278	16,065	15,959	16,044	18,186	19,917	21,795	24,905
Asia												
Burma	340	430	450	526	558	575	569	443	400	378	321	230
India	370	366	556	466	508	933	822	1,135	1,221	1,318	1,286	868
Indonesia	793	700	828	1,032	1,047	1,122	1,175	1,371	1,531	1,986	2,012	1,700
Japan	8,932	8,195	9,279	9,042	9,877	10,403	10,914	11,307	9,032	8,102	5,008	4,800
Malaysia	433	437	473	522	481	470	522	452	497	641	641	410
Philippines	1,838	1,951	2,021	1,983	1,823	1,574	1,743	1,689	1,638	1,759	1,852	1,500
South Korea	2,823	2,293	3,147	3,523	3,366	3,759	3,990	2,584	2,823	1,571	2,762	1,700
Taiwan	84	96	216	505	344	364	366	405	373	268	268	210
Turkey	250	200	200	220	219	219	224	286	283	513	513	640
Total	15,863	14,668	17,170	17,819	18,223	19,419	20,325	19,672	17,798	16,536	14,663	12,058
Europe												
Finland	1,028	1,430	1,215	1,190	980	1,123	1,566	1,193	1,415	997	997	920
France	2,409	2,374	1,706	986	688	769	866	825	831	678	627	620
Germany	1,042	1,213	1,263	1,286	1,167	1,225	1,102	884	994	642	700	260
Greece	1,752	1,671	1,945	1,581	1,797	1,799	1,630	1,726	1,668	1,977	1,668	1,700
Greenland	763	771	720	758	607	335	425	385	402	458	470	300
Ireland	1,058	773	595	352	318	280	277	262	232	177	231	230
Italy	1,065	1,365	1,779	1,791	2,362	1,560	513	577	449	513	510	360
Portugal	35	29	23	23	32	29	108	175	120	120	120	620
Spain	3,168	5,711	6,186	3,789	5,938	5,000	6,405	5,562	6,880	7,298	7,088	7,400
Sweden	5,650	5,337	5,171	5,396	5,491	7,677	8,038	7,554	8,520	7,201	6,099	7,000
Yugoslavia	5,214	4,789	4,422	3,342	3,987	4,051	5,017	5,702	4,859	4,468	4,276	4,300
Total	23,184	25,463	25,025	20,494	23,367	23,848	25,947	24,845	26,370	24,529	22,786	23,710

Continued on following page

mine Production by Country—Continued

Thousand Troy Ounces

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
North & Central America												
Canada	36,874	34,390	36,311	42,234	38,692	42,001	38,485	34,980	38,118	44,100	41,310	44,374
Costa Rica	2	2	2	2	2	2	2	2	2	2	2	2
Dominican Republic	2,268	1,642	2,062	2,112	1,270	1,222	1,609	1,318	1,149	1,400	700	700
El Salvador	152	146	137	86	23	22	20	17	17	17	17	17
Guatemala	10	10	8	8	3	0	0	0	0	0	0	0
Honduras	2,186	1,721	1,665	2,050	2,587	2,698	2,765	1,747	741	796	796	1,000
Mexico	49,408	47,344	53,204	49,841	55,000	63,900	69,200	69,400	69,800	70,000	70,000	64,100
Nicaragua	388	163	82	76	63	50	52	26	29	23	23	40
United States	37,896	32,329	40,683	40,248	43,431	44,592	39,357	34,221	39,790	53,402	60,797	66,488
Total	129,184	117,747	134,154	136,657	141,071	154,487	151,490	141,711	149,646	169,740	173,645	176,721
Oceania												
Australia	26,749	24,981	23,920	29,161	33,212	31,250	34,916	32,890	35,912	35,815	37,295	37,800
Fiji	9	9	9	19	12	13	15	15	0	0	0	0
New Zealand	2	1	1	1	0	0	41	41	0	59	156	160
Papua New Guinea	1,434	1,187	1,365	1,394	1,531	1,426	1,487	1,802	2,004	2,100	1,966	2,600
Total	28,194	26,178	25,295	30,575	34,755	32,689	36,459	34,748	37,916	37,974	39,417	40,560
South America												
Argentina	2,209	2,357	2,518	2,684	2,502	1,983	2,170	2,135	1,899	1,608	1,547	2,200
Bolivia	5,742	6,099	6,394	5,472	6,024	4,559	3,614	3,057	4,565	7,234	7,718	8,900
Brazil	1,065	737	765	748	750	2,275	2,301	1,913	1,966	2,252	2,056	1,100
Chile	8,740	9,596	11,608	12,288	14,955	15,776	16,642	16,080	16,068	16,301	17,701	20,416
Colombia	99	146	134	137	134	128	155	187	167	211	220	210
Ecuador	70	70	32	9	3	3	2	2	2	2	2	0
Peru	41,900	42,957	46,940	53,402	55,557	56,523	60,925	61,918	65,908	50,133	59,560	54,800
Total	59,825	61,962	68,391	74,740	79,925	81,247	85,809	85,292	90,575	77,741	88,804	87,626
Subtotal	272,051	264,593	287,540	296,973	313,619	327,755	335,989	322,312	340,491	346,437	361,110	365,580
Transitional Economies												
Bulgaria	805	773	741	805	805	837	837	837	837	799	799	600
China	1,928	1,928	2,091	2,252	2,300	2,600	2,800	3,214	3,214	3,500	4,000	5,500
Czechoslovakia	1,126	1,126	1,126	1,062	964	1,029	1,030	1,062	1,100	1,126	1,100	600
East Germany	1,543	1,511	1,447	1,447	1,382	1,286	1,318	1,318	1,318	1,286	1,298	—
Hungary	34	34	31	30	30	25	25	25	25	25	25	25
North Korea	1,543	1,447	1,286	965	1,100	1,600	1,600	1,600	1,600	1,600	1,600	1,600
Poland	22,569	24,628	20,577	21,058	21,800	23,900	26,717	26,652	26,717	34,176	34,000	34,800
Romania	965	901	805	805	805	773	805	741	642	691	671	800
Soviet Union	49,834	49,834	50,500	51,000	51,441	51,441	52,084	52,400	52,500	53,000	54,000	52,000
Total	80,347	82,182	78,604	79,424	80,627	83,491	87,216	87,850	87,953	96,203	97,493	95,925
WORLD TOTAL	352,398	346,775	366,144	376,397	394,246	411,246	423,205	410,161	428,444	442,640	458,603	461,505

Sources: U.S. Bureau of Mines; American Bureau of Metals Statistics; Statistics Canada; Chamber of Mines of South Africa; Silver Institute; Central Intelligence Agency; other government and industry sources; CPM Group.

Industrial Demand by Country, 1950-1990

Million Troy Ounces

	<u>U.S.</u>	<u>Japan</u>	<u>India</u>	<u>Canada</u>	<u>Mexico</u>
1950	120.0	-i-	-i-	5.2	2.4
1951	110.0	3.5	-i-	4.4	-i-
1952	95.0	3.5	-i-	3.8	-i-
1953	105.0	5.6	4.0	4.7	-i-
1954	85.0	5.8	3.0	3.9	-i-
1955	100.0	6.2	3.0	4.6	-i-
1956	100.0	7.9	17.5	3.8	3.9
1957	95.0	8.8	15.0	5.8	3.9
1958	85.0	8.2	3.3	4.6	4.4
1959	103.0	13.6	2.0	4.5	5.4
1960	102.0	21.6	1.5	4.3	4.3
1961	105.5	19.1	1.5	3.4	3.4
1962	110.4	19.6	1.5	3.3	3.3
1963	110.0	20.0	2.5	3.2	3.2
1964	123.0	20.0	12.0	4.1	4.1
1965	137.0	25.8	16.0	5.7	4.7
1966	183.7	31.5	16.0	5.8	3.9
1967	171.0	33.2	15.0	5.8	5.0
1968	145.3	35.0	16.0	6.2	5.0
1969	141.5	41.5	16.0	5.7	4.4
1970	128.4	46.0	16.0	6.0	5.4
1971	129.1	46.5	16.0	6.8	5.1
1972	151.7	54.3	13.0	8.3	7.0
1973	196.4	69.0	13.0	10.4	10.5
1974	176.0	57.7	14.0	10.3	6.5
1975	157.7	46.4	13.0	10.3	5.6
1976	170.6	60.8	18.0	9.3	6.5
1977	153.6	63.2	17.6	9.1	5.5
1978	160.2	64.9	21.0	9.6	5.8
1979	157.3	68.8	22.5	7.3	5.5
1980	124.7	61.5	22.5	8.7	3.1
1981	116.7	59.6	26.5	8.5	3.2
1982	118.8	63.2	23.0	9.0	3.6
1983	116.3	72.1	22.5	8.9	2.2
1984	114.8	78.8	20.9	9.0	3.5
1985	118.6	72.6	21.0	9.1	5.1
1986	118.9	78.6	19.3	9.6	4.9
1987	115.3	92.2	20.1	10.4	4.4
1988	112.0	103.9	22.5	11.0	4.5
1989	120.0	102.2	27.0	12.0	4.5
1990	125.1	108.8	41.8	12.5	4.6

Notes: Excludes transitional economies. Excludes silver use in coinage. Totals may not equal the sums of countries due to rounding.

i—included in "other".

Sources: CPM Group, industry sources.

Europe						Total	
Germany	Italy	U.K.	France	Other			
7.6	-i-	12.4	1.3	8.5	157.4	1950	
10.0	-i-	16.6	10.0	10.1	164.6	1951	
10.4	-i-	9.1	10.5	9.8	142.1	1952	
11.9	-i-	11.9	14.5	10.7	168.3	1953	
24.2	-i-	12.6	15.0	11.3	160.8	1954	
28.1	-i-	14.2	15.7	21.0	192.8	1955	
33.1	-i-	13.8	15.9	20.0	215.9	1956	
31.5	-i-	14.7	17.9	20.0	212.6	1957	
31.1	-i-	14.8	14.1	25.0	190.5	1958	
33.3	-i-	17.5	10.6	23.0	212.9	1959	
40.2	-i-	16.5	13.0	31.9	235.3	1960	
43.5	20.0	20.0	14.0	37.3	267.7	1961	
41.8	22.0	20.0	13.5	38.2	273.6	1962	
40.5	25.0	20.0	13.9	38.8	277.1	1963	
46.3	25.0	23.0	14.8	43.6	315.9	1964	
54.6	25.0	25.0	14.0	48.0	355.8	1965	
48.2	30.0	25.0	14.7	56.1	414.9	1966	
48.2	28.2	24.0	14.7	53.9	399.0	1967	
50.0	22.5	23.0	18.0	50.0	371.0	1968	
50.0	29.0	24.5	19.3	51.9	383.8	1969	
48.2	32.0	25.0	15.5	50.4	372.9	1970	
59.9	30.5	25.0	15.6	52.1	386.6	1971	
60.0	32.0	27.0	16.5	57.6	427.4	1972	
60.0	33.5	31.5	22.5	69.7	516.5	1973	
55.0	30.0	33.0	21.0	62.8	466.3	1974	
38.9	28.9	28.0	21.0	54.7	404.5	1975	
52.9	38.5	27.6	31.8	65.0	481.0	1976	
48.1	36.3	29.4	32.6	61.4	456.8	1977	
42.0	31.0	29.0	24.6	61.0	449.1	1978	
39.8	33.3	27.6	24.1	58.9	445.1	1979	
31.9	21.8	19.5	19.8	49.0	362.5	1980	
29.3	21.5	18.4	18.9	51.0	353.6	1981	
32.7	20.8	18.1	17.1	53.0	359.3	1982	
30.3	15.0	17.7	16.5	53.7	355.2	1983	
32.2	17.4	19.2	17.1	59.8	372.7	1984	
34.6	18.1	19.1	16.9	57.4	372.5	1985	
36.8	32.8	19.1	17.0	69.4	406.4	1986	
39.1	38.6	21.1	17.6	69.3	428.1	1987	
44.6	37.9	22.7	21.3	70.2	450.6	1988	
47.3	37.3	24.5	22.1	72.3	469.2	1989	
48.9	38.5	24.4	22.4	73.0	500.0	1990	

Japanese Fabrication Demand

Million Troy Ounces

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>
Photography	25.0	22.6	23.0	27.3	31.2	31.4
Electrical Contacts	11.1	9.2	5.6	6.8	6.9	7.0
Caustic Silver	4.4	2.9	2.6	4.7	5.8	6.5
Brazing Alloys and Solders	7.3	5.9	2.9	4.7	4.3	4.7
Tube, Sheet, and Bar	6.5	4.8	3.5	5.9	5.6	5.1
Electroplating	4.3	2.8	2.3	3.4	2.8	2.9
Jewelry and Silverware	3.9	1.8	1.4	2.0	2.2	2.5
Miscellaneous	6.5	7.7	5.1	6.0	4.4	4.8
Total	69.0	57.7	46.4	60.8	63.2	64.9
% Change Year Ago	—	-16.4%	-19.6%	31.0%	3.9%	2.7%
	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
Photography	32.2	32.6	33.9	36.6	40.9	41.3
Electrical Contacts	8.9	7.6	6.4	6.6	7.7	7.8
Caustic Silver	6.6	5.6	5.6	5.5	6.7	7.6
Brazing Alloys and Solders	5.3	3.5	3.1	3.3	3.2	3.9
Tube, Sheet, and Bar	4.9	3.2	3.0	3.6	3.2	3.9
Electroplating	2.8	2.5	2.4	2.3	2.8	3.7
Jewelry and Silverware	2.2	1.0	1.1	1.3	1.1	1.0
Miscellaneous	5.9	5.5	4.1	4.0	6.5	9.6
Total	68.8	61.5	59.6	63.2	72.1	78.8
% Change Year Ago	6.0%	-10.6%	-3.1%	6.0%	14.1%	9.3%
	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
Photography	42.2	47.0	51.3	56.8	54.8	59.0
Electrical Contacts	7.5	6.8	7.0	8.4	9.5	10.1
Caustic Silver	6.8	7.6	8.3	9.5	8.9	9.0
Brazing Alloys and Solders	3.7	3.7	3.7	4.3	4.5	4.6
Tube, Sheet, and Bar	3.6	4.1	5.3	5.6	6.7	6.7
Electroplating	3.2	3.2	4.9	5.6	3.8	4.5
Jewelry and Silverware	1.4	1.7	2.2	3.0	3.5	4.4
Miscellaneous	4.2	4.4	9.4	10.6	10.5	10.5
Total	72.6	78.6	92.2	103.9	102.2	108.8
% Change Year Ago	-7.8%	8.2%	17.4%	12.6%	-1.6%	6.5%
Coinage	—	6.4	—	—	—	8.9
Total Including Coinage	72.6	85.0	92.2	103.9	102.2	117.7
% Change Year Ago	-7.8%	17.0%	8.5%	12.6%	-1.6%	15.2%

Notes: Totals may not equal the sums of components due to rounding.

There was no silver use in coinage in Japan prior to 1986.

Sources: Japanese trade sources, CPM Group.

European Fabrication Demand

Million Troy Ounces

	1979	1980	1981	1982	1983	1984
Jewelry/Silverware	50.3	27.5	28.7	32.7	23.9	25.3
Photography	47.9	41.4	43.2	44.9	45.6	47.6
Electronics	33.4	29.8	25.6	23.2	23.8	26.2
Brazing Alloys/Solders	20.8	15.2	13.0	12.0	9.9	10.5
Dental	1.3	1.6	1.3	1.2	1.1	1.1
Mirrors	2.3	2.5	2.6	2.2	1.9	1.9
Miscellaneous	6.6	5.3	4.8	4.9	3.6	4.8
Total	162.0	123.2	119.3	121.1	109.8	117.4
% Change Year Ago	—	-24.0%	-3.2%	1.5%	-9.3%	6.9%
Coinage	22.6	5.8	7.0	8.5	5.8	7.8
Total Including Coinage	184.6	129.0	126.3	129.6	115.6	125.2
% Change Year Ago	—	-30.1%	-2.1%	2.6%	-10.8%	8.3%
	1985	1986	1987	1988	1989	1990
Jewelry/Silverware	27.3	46.5	53.3	57.3	58.1	60.0
Photography	48.1	51.1	52.6	57.0	57.1	58.0
Electronics	27.2	28.5	29.0	31.5	34.8	35.2
Brazing Alloys/Solders	10.4	10.9	11.0	11.4	13.0	13.0
Dental	1.1	1.1	1.1	1.2	1.1	1.0
Mirrors	1.8	1.8	1.4	1.5	1.5	1.0
Miscellaneous	4.4	4.7	4.0	5.1	5.3	5.0
Total	120.4	144.5	152.5	164.8	170.9	173.2
% Change Year Ago	2.5%	20.1%	5.5%	8.1%	3.7%	1.4%
Coinage	8.1	5.3	11.1	10.2	9.0	NA
Total Including Coinage	128.5	149.8	163.5	175.1	179.8	NA
% Change Year Ago	2.6%	16.6%	9.2%	7.0%	2.7%	

Notes: Totals may not equal the sums of categories due to rounding.

Sources: European trade sources, CPM Group.

German Fabrication Demand

Million Troy Ounces

	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
Jewelry/Silverware	11.8	7.6	6.9	8.7	6.1	5.9
Photography	8.7	7.3	7.8	8.9	9.2	9.2
Electronics	9.6	8.7	7.4	6.7	8.6	9.7
Brazing Alloys/Solders	6.7	5.3	4.5	4.7	3.9	4.0
Dental	0.5	0.7	0.5	0.5	0.4	0.3
Mirrors	0.5	0.5	0.5	0.5	0.5	0.5
Miscellaneous	2.0	1.8	1.8	2.9	1.9	2.6
Total	39.8	31.9	29.3	32.7	30.3	32.2
% Change Year Ago	—	-19.8%	-8.2%	11.6%	-7.3%	6.2%
Coinage	3.7	—	0.5	0.3	—	—
Total Including Coinage	43.5	31.9	29.8	33.0	30.3	32.2
% Change Year Ago	—	-26.7%	-6.6%	10.7%	-8.2%	6.2%
	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
Jewelry/Silverware	6.4	8.5	11.2	12.7	12.7	13.2
Photography	10.6	10.4	10.5	12.1	12.5	12.9
Electronics	10.1	10.6	10.9	12.3	13.8	14.3
Brazing Alloys/Solders	4.2	4.0	4.1	4.2	4.8	5.0
Dental	0.3	0.4	0.3	0.3	0.3	0.4
Mirrors	0.5	0.5	0.5	0.5	0.5	0.5
Miscellaneous	2.5	2.4	1.6	2.4	2.6	2.6
Total	34.6	36.8	39.1	44.6	47.3	48.9
% Change Year Ago	7.5%	6.3%	6.3%	14.1%	6.1%	3.3%
Coinage	—	—	3.2	3.2	—	NA
Total Including Coinage	34.6	36.8	42.3	47.8	47.3	NA
% Change Year Ago	7.5%	6.3%	15.1%	13.0%	-1.1%	

Notes: Totals may not equal the sums of categories due to rounding.

Sources: European trade sources, CPM Group.

Italian Fabrication Demand

Million Troy Ounces

	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
Sterlingware	12.0	4.7	6.4	8.4	5.5	6.2
Silverplate	0.6	0.7	0.7	0.6	0.5	0.5
Jewelry	3.9	2.6	2.6	1.6	1.3	1.6
Photography	4.2	4.0	3.5	3.2	2.6	3.2
Electronics	8.0	6.4	5.5	4.5	3.2	3.7
Brazing Alloys/Solders	2.7	2.3	1.5	1.2	1.0	1.0
Mirrors	0.6	0.6	0.5	0.5	0.3	0.3
Miscellaneous	1.3	0.5	0.8	0.8	0.6	0.9
Total	33.3	21.8	21.5	20.8	15.0	17.4
% Change Year Ago	—	-34.5%	-1.4%	-3.3%	-27.9%	16.2%
Coinage	1.6	0.3	0.3	0.4	0.6	0.2
Total Including Coinage	34.9	22.1	21.8	21.2	15.6	17.6
% Change Year Ago	—	-36.7%	-1.4%	-2.8%	-26.4%	13.0%
	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
Sterlingware	6.5	17.7	23.2	23.2	23.2	24.1
Silverplate	0.5	0.4	0.4	0.4	0.4	0.4
Jewelry	2.0	4.1	5.0	5.4	5.0	5.5
Photography	3.2	4.2	3.5	1.9	1.6	1.3
Electronics	3.7	4.2	4.2	4.5	4.5	4.5
Brazing Alloys/Solders	1.0	1.1	1.1	1.2	1.3	1.3
Mirrors	0.3	0.3	0.3	0.3	0.3	0.3
Miscellaneous	0.9	0.9	0.9	1.0	1.1	1.1
Total	18.2	32.8	38.6	37.9	37.3	38.5
% Change Year Ago	4.2%	80.5%	17.9%	-2.0%	-1.5%	3.2%
Coinage	0.5	0.2	0.2	0.2	0.2	NA
Total Including Coinage	18.6	33.0	38.8	38.0	37.5	NA
% Change Year Ago	5.8%	76.8%	17.8%	-2.0%	-1.3%	

Notes: Totals may not equal the sums of categories due to rounding.

Consumption of silver in semi-fabricated form is excluded.

Sources: European trade sources, CPM Group.

United Kingdom Fabrication Demand

Million Troy Ounces

	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
Jewelry/Silverware	4.9	2.1	2.3	2.2	1.5	1.4
Photography	10.2	6.7	6.9	6.8	7.7	8.6
Electronics	7.3	6.4	5.4	5.5	5.3	5.9
Brazing Alloys/Solders	3.9	3.0	2.6	2.6	2.0	2.2
Dental	0.3	0.4	0.4	0.4	0.3	0.3
Mirrors	0.5	0.4	0.4	0.4	0.4	0.4
Miscellaneous	0.5	0.5	0.4	0.3	0.3	0.3
Total	27.6	19.5	18.4	18.1	17.7	19.2
% Change Year Ago	—	-29.3%	-5.6%	-1.6%	-2.2%	8.3%
Coinage	2.0	2.1	2.2	0.9	0.6	0.3
Total Including Coinage	29.6	21.6	20.6	19.1	18.3	19.5
% Change Year Ago	—	-27.0%	-4.6%	-7.3%	-4.2%	6.4%
	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	
Jewelry/Silverware	1.8	1.7	2.0	2.0	2.2	
Photography	8.3	8.1	10.4	12.3	13.0	
Electronics	5.9	5.8	5.5	5.4	5.9	
Brazing Alloys/Solders	2.1	2.3	2.0	1.9	2.3	
Dental	0.3	0.4	0.5	0.5	0.5	
Mirrors	0.4	0.4	0.4	0.4	0.4	
Miscellaneous	0.3	0.3	0.3	0.3	0.3	
Total	19.1	19.1	21.1	22.7	24.5	
% Change Year Ago	-0.5%	0.2%	10.5%	7.7%	7.9%	
Coinage	0.4	0.8	1.3	1.6	1.6	
Total Including Coinage	19.5	19.8	22.4	24.3	26.1	
% Change Year Ago	-0.1%	1.8%	13.1%	8.7%	7.4%	

Notes: Totals may not equal the sums of categories due to rounding.

Sources: European trade sources, CPM Group.

French Fabrication Demand

Million Troy Ounces

	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
Jewelry/Silverware	4.7	3.2	3.0	2.8	2.4	2.6
Photography	8.5	7.9	7.7	7.5	7.9	8.1
Electronics	5.6	5.3	4.9	4.1	3.9	3.9
Brazing Alloys/Solders	3.4	2.0	2.0	1.8	1.5	1.8
Dental	—	—	—	—	0.1	0.1
Mirrors	0.4	0.4	0.4	0.4	0.3	0.3
Miscellaneous	1.4	1.0	0.8	0.5	0.4	0.3
Total	24.1	19.8	18.9	17.1	16.5	17.1
% Change Year Ago	—	-17.8%	-4.5%	-9.5%	-3.5%	3.7%
Coinage	10.6	0.1	0.1	1.4	2.2	3.9
Total Including Coinage	34.7	19.9	19.0	18.5	18.7	21.0
% Change Year Ago	—	-42.7%	-4.5%	-2.6%	1.1%	12.3%
	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	
Jewelry/Silverware	2.8	2.8	2.3	2.5	2.7	
Photography	7.6	7.7	8.4	11.2	10.8	
Electronics	4.4	4.4	4.8	5.5	6.4	
Brazing Alloys/Solders	1.6	1.6	1.5	1.5	1.6	
Dental	0.1	0.1	0.1	0.1	0.1	
Mirrors	0.2	0.2	0.2	0.2	0.2	
Miscellaneous	0.3	0.3	0.3	0.3	0.3	
Total	16.9	17.0	17.6	21.3	22.1	
% Change Year Ago	-0.9%	0.4%	3.4%	20.9%	3.9%	
Coinage	2.2	2.2	2.2	2.2	2.2	
Total Including Coinage	19.1	19.2	19.8	23.4	24.3	
% Change Year Ago	-8.9%	0.3%	3.0%	18.5%	3.6%	

Notes: Totals may not equal the sums of categories due to rounding.

Asterisks indicate that consumption in individual industries totaled less than 100,000 ounces.

Sources: European trade sources, CPM Group.

The Silver Market in India

Troy Ounces

	1987	1988	1989	1990
Mine Production	1,221,727	1,318,179	1,286,028	868,069
Secondary Supply	14,467,815	13,181,787	4,822,605	0
Imports	4,404,646	8,037,675	20,897,955	42,052,910
Total Supply	<u>20,094,188</u>	<u>22,537,641</u>	<u>27,006,588</u>	<u>42,920,979</u>
Industrial Use	13,824,801	16,107,501	—	—
Photography	—	—	4,822,605	5,626,373
Electroplating	—	—	3,215,070	4,822,605
Electrical/Electronics	—	—	3,215,070	4,018,838
Brazing Alloys	—	—	2,411,303	2,411,303
Jari	—	—	1,607,535	3,215,070
Foils	—	—	—	964,521
Other	—	—	803,768	1,446,782
"Household items"	<u>6,269,387</u>	<u>6,430,140</u>	<u>10,931,238</u>	<u>19,290,420</u>
Total Fabrication Demand	<u>20,094,188</u>	<u>22,537,641</u>	<u>27,006,588</u>	<u>41,795,910</u>

Notes: Industrial use includes photography, electroplating, electronics, and brazing alloys. "Household items" includes silverware and jewelry. Imports in 1990 include 41.8 million ounces estimated to have been smuggled into India, and 257,000 ounces refined from illegal imports seized by the Indian government and refined in India. Domestic scrap sales were virtually nil in 1990.

The government of India seized 6,880,250 ounces of illegally imported silver during 1990; only the amount refined and sold into the market is shown on this table.

Source: CPM Group.

Reported and Inferred Silver Holdings

Million Troy Ounces

	Reported Stock Levels				Year-to-Year Changes		
	Government	Market		Total	In Market Stocks	In Inferred Stocks	Total
		Exchange	Dealer				
1970	357.7	135.0	82.2	574.9	NA	NA	NA
1971	311.9	135.7	57.1	504.7	-24.4	-6.7	-31.1
1972	333.6	107.9	51.9	493.4	-33.0	-57.9	-90.9
1973	277.2	108.0	38.4	423.6	-13.4	-108.6	-122.0
1974	319.2	99.5	49.3	468.0	2.4	-49.7	-47.3
1975	250.8	142.0	34.6	427.4	27.8	-28.7	-0.9
1976	257.0	144.3	30.6	431.9	-1.7	-12.4	-14.1
1977	319.0	149.8	35.6	504.4	10.5	-56.5	-46.0
1978	318.8	141.1	29.0	488.9	-15.3	-38.5	-53.8
1979	314.6	146.2	16.1	476.9	-7.8	36.7	28.9
1980	326.5	148.1	17.0	491.6	2.8	204.3	207.1
1981	322.5	128.7	20.7	471.9	-15.7	136.1	120.4
1982	321.5	141.4	20.7	483.6	12.7	71.0	83.7
1983	302.5	196.6	17.7	516.8	52.2	113.5	165.7
1984	286.5	189.2	17.1	492.8	-8.0	103.0	95.0
1985	273.5	227.0	17.1	517.6	37.8	65.2	103.0
1986	259.5	189.2	16.3	465.0	-38.6	52.6	14.0
1987	239.5	193.3	15.0	447.8	2.8	43.2	46.0
1988	231.6	209.4	15.2	456.2	16.3	12.3	28.6
1989	220.6	261.1	14.6	496.3	51.1	-32.3	18.8
1990	209.6	291.9	17.1	518.6	33.3	-57.7	-24.4

Notes: Changes in total stocks represents the change in the supply/demand balance of new metal.

Market stocks include reported U.S. dealer inventories and exchange registered stocks. New York Commodity Exchange inventories also include eligible stocks.

Changes in inferred stocks is the change in the supply/demand balance of new metal, adjusted for changes in reported inventories.

End of year data.

Sources: U.S. Bureau of the Mint; U.S. Bureau of Mines; New York Commodity Exchange; London Metal Exchange; Chicago Board of Trade; Tokyo Commodity Exchange; CPM Group.

Silver Futures Exchange Activity

Million Troy Ounces

	Trading Volume				Open Interest			
	Annual Totals				Year-end			
	Comex	CBT	Tocom	Total	Comex	CBT	Tocom	Total
1970	3,468.5	1,813.1	—	5,281.6	230.9	191.2	—	422.1
1971	3,081.2	2,520.5	—	5,601.7	245.5	366.7	—	612.2
1972	4,074.5	3,770.2	—	7,844.7	327.8	544.7	—	872.5
1973	6,189.3	8,153.0	—	14,342.3	428.0	981.6	—	1,409.6
1974	6,829.6	7,314.0	—	14,143.6	658.4	623.5	—	1,281.9
1975	14,511.6	9,763.5	—	24,275.1	1,276.4	864.5	—	2,140.9
1976	18,709.5	10,055.2	—	28,764.7	2,138.7	680.3	—	2,819.0
1977	17,700.2	11,285.3	—	28,985.5	1,404.9	1,409.8	—	2,814.7
1978	19,110.4	13,289.2	—	32,399.6	1,549.0	1,343.9	—	2,892.9
1979	20,403.1	13,602.9	—	34,006.0	636.8	468.7	—	1,105.5
1980	5,293.7	1,705.2	—	6,998.9	166.2	143.1	—	309.3
1981	6,203.6	1,257.3	—	7,460.9	140.0	56.3	—	196.3
1982	14,188.1	1,163.6	—	15,351.7	169.0	34.8	—	203.8
1983	32,619.9	2,750.5	—	35,370.4	301.7	32.4	—	334.1
1984	33,712.5	1,887.3	—	35,599.8	401.5	26.8	—	428.3
1985	24,106.0	1,034.8	591.1	25,731.9	430.7	18.5	17.6	466.8
1986	19,248.4	511.2	227.1	19,986.7	449.1	12.7	12.3	474.1
1987	25,278.3	597.0	473.2	26,348.5	371.2	11.2	24.8	407.2
1988	23,323.3	502.4	740.2	24,565.8	470.0	13.5	47.2	530.7
1989	21,833.1	266.7	420.8	22,520.6	474.2	9.7	80.2	564.1
1990	19,568.5	192.0	486.4	20,246.9	421.7	10.9	49.8	482.3
1991 Y-T-D	5,882.1	37.6	368.0	6,287.7	526.7	7.7	97.0	631.4

Notes: Trading volume is the total for the year. Open interest is end-December. Year-to-date through March.
Sources: New York Commodity Exchange, Chicago Board of Trade, Tokyo Commodity Exchange.

Monthly Average Silver Prices

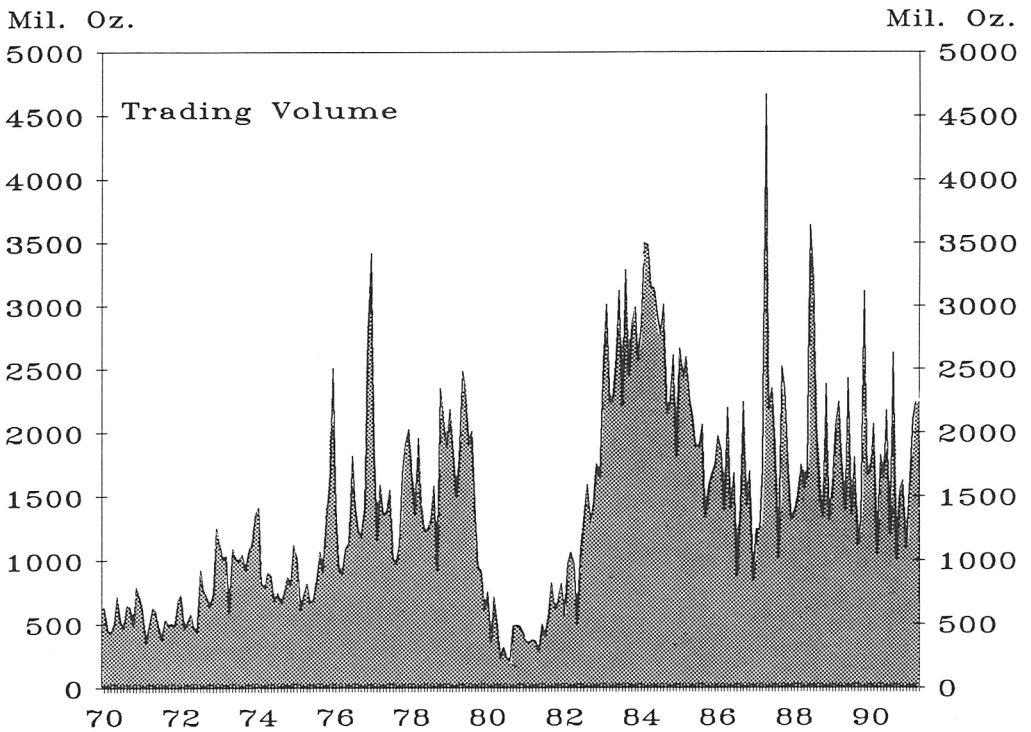
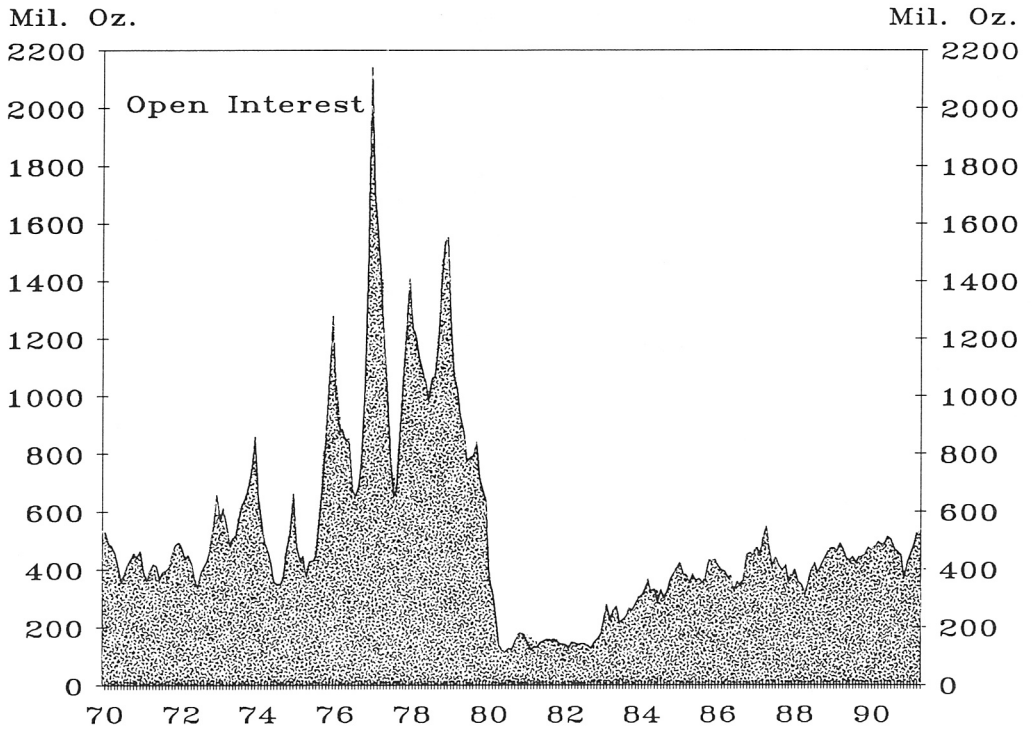
Comex Spot Settlement Price

	<u>1963</u>	<u>1964</u>	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>	<u>1970</u>
January	\$ —	\$ 1.29	\$ 1.30	\$ 1.30	\$ 1.29	\$ 2.06	\$ 1.98	\$ 1.87
February	—	1.29	1.29	1.29	1.29	1.98	1.82	1.89
March	—	1.29	1.29	1.29	1.29	2.25	1.83	1.88
April	—	1.29	1.29	1.29	1.30	2.24	1.78	1.84
May	—	1.29	1.29	1.29	1.39	2.40	1.76	1.66
June	1.28	1.29	1.28	1.29	1.70	2.44	1.63	1.63
July	1.29	1.29	1.28	1.29	1.75	2.31	1.61	1.68
August	1.29	1.29	1.29	1.29	1.74	2.20	1.65	1.80
September	1.29	1.29	1.29	1.30	1.68	2.22	1.78	1.79
October	1.29	1.30	1.29	1.29	1.80	1.96	1.87	1.75
November	1.29	1.29	1.29	1.30	1.97	2.01	1.92	1.74
December	1.29	1.29	1.29	1.30	2.11	1.96	1.79	1.63
Annual	\$ 1.29	\$ 1.29	\$ 1.29	\$ 1.29	\$ 1.61	\$ 2.17	\$ 1.78	\$ 1.76
Percent Change	—	0.1%	-0.2%	0.2%	24.4%	35.0%	-17.8%	-1.1%
	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>
January	\$ 1.64	\$ 1.47	\$ 2.01	\$ 3.65	\$ 4.19	\$ 4.06	\$ 4.41	\$ 4.94
February	1.60	1.50	2.24	5.27	4.39	4.09	4.54	4.94
March	1.67	1.54	2.28	5.34	4.34	4.17	4.85	5.28
April	1.72	1.57	2.18	5.02	4.22	4.35	4.78	5.11
May	1.66	1.58	2.38	5.41	4.55	4.49	4.69	5.13
June	1.60	1.57	2.60	4.89	4.49	4.81	4.44	5.31
July	1.58	1.75	2.68	4.41	4.72	5.00	4.50	5.35
August	1.58	1.85	2.63	4.41	4.92	4.22	4.45	5.49
September	1.42	1.77	2.67	4.04	5.00	4.30	4.54	5.57
October	1.33	1.81	2.88	4.80	4.31	4.22	4.77	5.19
November	1.32	1.82	2.86	4.64	4.32	4.37	4.83	5.88
December	1.39	1.97	3.14	4.39	4.08	4.36	4.71	5.93
Annual	\$ 1.54	\$ 1.68	\$ 2.54	\$ 4.69	\$ 4.46	\$ 4.37	\$ 4.63	\$ 5.34
Percent Change	-12.6%	9.0%	51.4%	84.3%	-4.9%	-2.0%	5.9%	15.5%
	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
January	\$ 6.25	\$38.28	\$14.78	\$ 8.03	\$12.51	\$ 8.20	\$ 6.11	\$ 6.07
February	7.43	35.28	12.97	8.29	13.83	9.17	6.07	5.86
March	7.42	23.95	12.35	7.23	10.66	9.69	6.03	5.64
April	7.49	14.45	11.48	7.28	11.76	9.24	6.46	5.22
May	8.40	12.69	10.90	6.66	13.02	8.97	6.27	5.11
June	8.54	15.82	9.96	5.61	11.73	8.73	6.18	5.15
July	9.18	16.15	8.63	6.20	12.13	7.41	6.11	5.05
August	9.40	16.00	8.99	7.15	12.14	7.65	6.26	5.21
September	14.02	20.20	10.05	8.74	11.89	7.28	6.04	5.69
October	16.85	20.18	9.27	9.51	9.85	7.30	6.20	5.67
November	16.59	18.61	8.54	9.82	8.88	7.50	6.13	5.57
December	22.81	16.28	8.47	10.62	9.14	6.65	5.88	5.37
Annual	\$11.20	\$20.66	\$10.53	\$ 7.93	\$11.46	\$ 8.15	\$ 6.14	\$ 5.47
Percent Change	109.6%	84.5%	-49.0%	-24.7%	44.6%	-28.9%	-24.6%	-11.0%

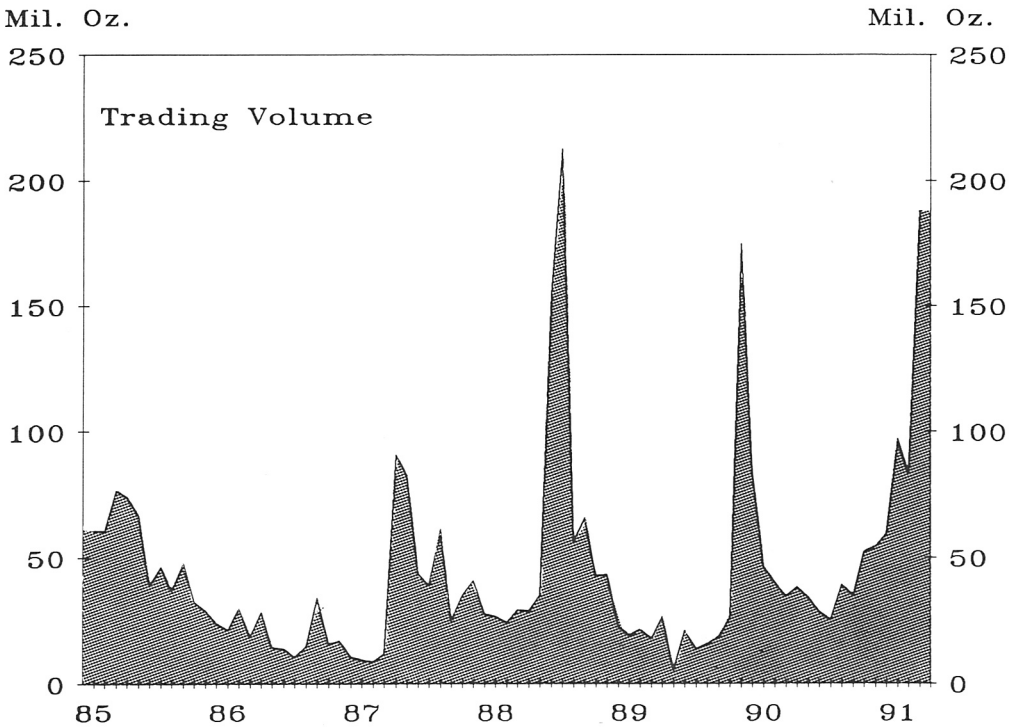
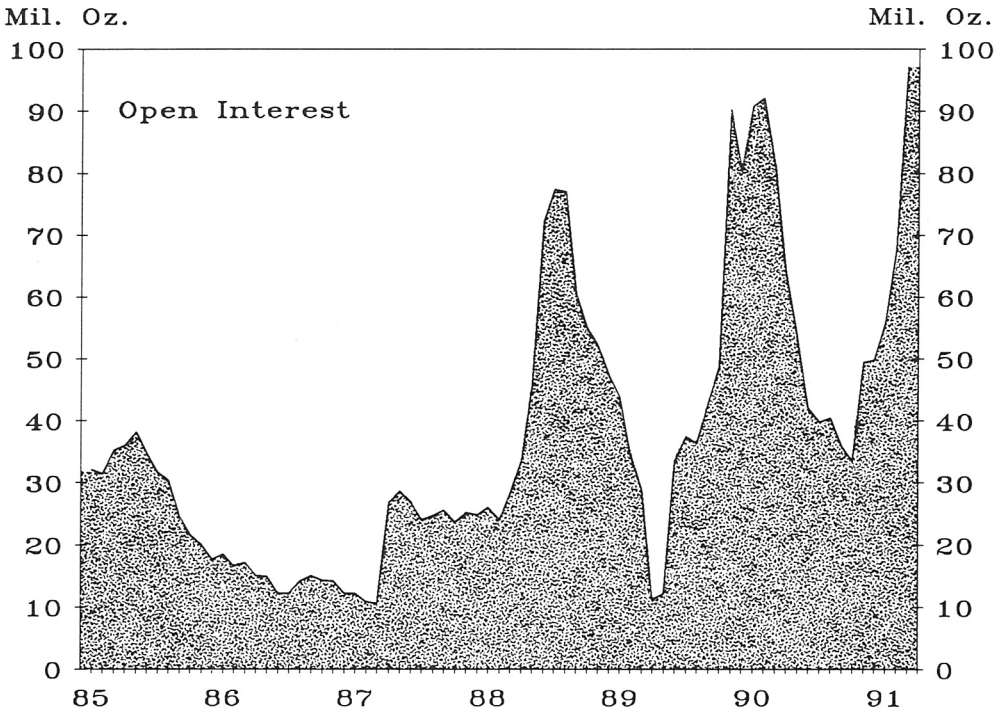
	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>
January	\$ 5.54	\$ 6.73	\$ 5.98	\$ 5.24	\$ 4.03
February	5.49	6.33	5.87	5.27	3.73
March	5.43	6.43	5.94	5.06	3.96
April	7.36	6.46	5.78	5.05	—
May	8.44	6.55	5.44	5.08	—
June	7.43	7.03	5.28	4.90	—
July	7.72	7.12	5.23	4.85	—
August	7.81	6.70	5.18	4.97	—
September	7.61	6.35	5.14	4.78	—
October	7.56	6.29	5.14	4.34	—
November	6.71	6.28	5.49	4.16	—
December	<u>6.79</u>	<u>6.13</u>	<u>5.52</u>	<u>4.08</u>	<u>—</u>
Annual	\$ 6.99	\$ 6.53	\$ 5.50	\$ 4.81	\$ 3.91
Percent Change	27.8%	-6.5%	-15.8%	-12.4%	-18.9%

Source: New York Commodity Exchange.

New York Commodity Exchange Activity



Tokyo Commodity Exchange Activity



**WORLD MINE PRODUCTION OF SILVER
IN 1990**

**WITH PROJECTIONS FOR
1991
1992
1993
1994**

THE SILVER INSTITUTE

INCORPORATED 1971

A Worldwide Association of
Miners, Refiners, Fabricators and Manufacturers

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THE SILVER INSTITUTE

WORLD MINE PRODUCTION OF SILVER 1990 - 1994

This report presents the mine production of silver in all of the 55 countries of the world which are mining or expect to mine silver during the 1990 to 1994 period. Countries are separated into Market Economies and Transitional Economies, who are now participating more in the international movement of silver.

The Market Economies are divided into three sections: those which produced more than twenty million troy ounces of silver in 1990; those which produced one million to twenty million troy ounces; and those which produced less than one million troy ounces. In all sections, figures for the countries are arranged in the order of size of mine production of silver in 1990. For each country, actual production is given, as well as projected production for each of the years 1991, 1992, 1993 and 1994. Amounts are shown in millions of troy ounces for each country and group of countries, with metric ton (1,000 kilograms) equivalents for each group of countries.

The figures presented here refer to mine production of silver on an "accountable" basis, indicating the amount of silver which is credited to the mining enterprise. This study was made with the participation of over 100 mining entities, who supplied The Silver Institute with their reports and projections.

The projections are the totals of many individual companies' plans for their mine production of silver in each of the four ensuing years. Increases and decreases from these plans in individual mines and countries often balance each other. However, there is the fact that earthquakes, floods, accidents, strikes, or unexpected declines in market prices will cause the actual production to be less than the projections.

The world mine production of silver in 1990 was *1% less* than had been projected one year ago; *1% less* than projected two years ago; and *5% less* than projected three years ago.

An additional analysis shows the production and the percent of world total for each of the ten largest producing countries, indicating the changes in their shares of production over the years 1990 to 1994.

Appreciation is expressed for the extraordinary cooperation of the mining and related enterprises who provided the information and projections used in this report. Their names are listed alphabetically by country following the statistical data.

May 1991

Silver Institute Mine Survey, 1990-1994

MINE PRODUCTION OF SILVER

On Accountable Basis
In Millions of Troy Ounces

MARKET ECONOMIES

Countries Producing More Than 20 Million Troy Ounces in 1990:	Actual-----		Projected-----		
	1990	1991	1992	1993	1994
United States	66.5	62.3	69.0	74.2	73.6
Mexico	64.1	65.3	68.7	68.6	66.3
Peru	54.8	55.7	55.7	55.8	55.7
Canada	44.4	40.3	39.5	33.3	33.4
Australia	37.8	33.1	38.0	39.6	39.5
Chile	20.4	22.4	27.7	24.0	20.3
Subtotal	288.0	279.1	298.6	295.5	288.8
Equivalent Metric Tons	8,958.0	8,681.2	9,287.7	9,191.3	8,982.9
Change from Previous Year		-3%	7%	-1%	-2%

Countries Producing 1 to 20 Million Troy Ounces in 1990:	Actual-----		Projected-----		
	1990	1991	1992	1993	1994
Morocco	12.1	11.9	11.9	11.9	11.9
Bolivia	8.9	8.9	8.9	8.9	8.9
Spain	7.4	7.4	7.4	7.4	7.4
Sweden	7.0	8.0	6.7	6.8	6.9
South Africa	5.7	5.8	6.0	5.7	5.6
Japan	4.8	4.7	4.6	4.6	4.6
Namibia	2.9	2.9	2.9	2.9	2.9
Zaire	2.7	2.7	2.7	2.7	2.7
Papua New Guinea	2.6	3.6	2.0	1.9	1.7
Argentina	2.2	2.6	2.6	2.6	2.6
South Korea	1.7	1.7	1.7	1.7	1.7
Greece	1.7	1.7	1.7	1.7	1.7
Indonesia	1.7	1.6	1.9	2.0	1.6
Philippines	1.5	1.5	1.8	1.8	1.8
Brazil	1.1	1.1	1.1	1.1	1.1
India	1.1	1.1	1.1	1.1	1.1
Honduras	1.0	1.2	1.2	1.2	1.2
Subtotal	66.1	68.4	66.2	66.0	65.4
Equivalent Metric Tons	2,056.0	2,127.5	2,059.1	2,052.9	2,034.2
Change from Previous Year		3%	-3%	0%	-1%

Silver Institute Mine Survey, 1990-1994

Countries Producing Less Than 1 Million Troy Ounces in 1990:	Actual	Projected			
	1990	1991	1992	1993	1994
Finland	.92	.92	.92	.92	.92
Iran	.80	.80	.80	.80	.80
Zimbabwe	.71	.71	.71	.71	.71
Dominican Republic	.70	.88	1.23	1.23	.67
Turkey	.70	.70	.70	.70	.70
Zambia	.64	.64	.64	.64	.64
France	.62	.62	.62	.62	.62
Portugal	.62	.62	.62	.62	.62
Malaysia	.41	.41	.41	.41	.41
Italy	.36	.38	.40	.41	.40
Denmark (Greenland)	.30	.00	.00	.00	.00
Oman	.27	.27	.27	.27	.27
Burma	.23	.23	.23	.23	.23
Ireland	.23	.23	.23	.23	.23
German Federal Republic	.21	.25	.25	.25	.25
Taiwan	.21	.21	.21	.21	.21
Colombia	.21	.21	.21	.21	.21
New Zealand	.16	.16	.45	.48	.47
Algeria	.10	.10	.10	.10	.10
Nicaragua	.04	.04	.04	.04	.04
Ghana	.03	.03	.03	.03	.03
Tunisia	.03	.03	.03	.03	.03
Ecuador	.00	.00	.55	.57	.57
Subtotal	8.50	8.44	9.65	9.71	9.13
Equivalent Metric Tons	264.39	262.52	300.16	302.02	283.98
Change from Previous Year		-1%	14%	1%	-6%
MARKET ECONOMIES					
TOTAL	362.6	355.9	374.4	371.2	363.3
Equivalent Metric Tons	11,278.4	11,070.0	11,645.4	11,545.9	11,300.2
Change from Previous Year		-2%	5%	-1%	-2%
TRANSITIONAL ECONOMIES (Estimated)					
Soviet Union	48.2	48.2	48.2	48.2	48.2
Poland	34.8	34.8	34.8	34.8	34.8
North Korea	9.6	9.6	9.6	9.6	9.6
China People's Republic	5.5	5.5	5.5	5.5	5.5
Yugoslavia	4.3	4.3	4.3	4.3	4.3
German Democratic Republic	1.9	1.9	1.9	1.9	1.9
Romania	0.8	0.8	0.8	0.8	0.8
Czechoslovakia	0.6	0.6	0.6	0.6	0.6
Bulgaria	0.6	0.6	0.6	0.6	0.6
TOTAL	106.3	106.3	106.3	106.3	106.3
Equivalent Metric Tons	3,306.4	3,306.4	3,306.4	3,306.4	3,306.4
WORLD TOTAL					
TOTAL	468.9	462.2	480.7	477.5	469.6
Equivalent Metric Tons	14,584.8	14,376.4	14,951.8	14,852.3	14,606.5
Change from Previous Year		-1%	4%	-1%	-2%

Silver Institute Mine Survey, 1990-1994

ADDITIONAL ANALYSIS	Actual	-----Projected-----			
	1990	1991	1992	1993	1994
United States					
Million Troy Ounces	66.5	62.3	69.0	74.2	73.6
Percent of World Total	14.2%	13.5%	14.4%	15.5%	15.7%
Mexico					
Million Troy Ounces	64.1	65.3	68.7	68.6	66.3
Percent of World Total	13.7%	14.1%	14.3%	14.4%	14.1%
Peru					
Million Troy Ounces	54.8	55.7	55.7	55.8	55.7
Percent of World Total	11.7%	12.1%	11.6%	11.7%	11.9%
Soviet Union					
Million Troy Ounces	48.2	48.2	48.2	48.2	48.2
Percent of World Total	10.3%	10.4%	10.0%	10.1%	10.3%
Canada					
Million Troy Ounces	44.4	40.3	39.5	33.3	33.4
Percent of World Total	9.5%	8.7%	8.2%	7.0%	7.1%
Australia					
Million Troy Ounces	37.8	33.1	38.0	39.6	39.5
Percent of World Total	8.1%	7.2%	7.9%	8.3%	8.4%
Poland					
Million Troy Ounces	34.8	34.8	34.8	34.8	34.8
Percent of World Total	7.4%	7.5%	7.2%	7.3%	7.4%
Chile					
Million Troy Ounces	20.4	22.4	27.7	24.0	20.3
Percent of World Total	4.4%	4.8%	5.8%	5.0%	4.3%
Morocco					
Million Troy Ounces	12.1	11.9	11.9	11.9	11.9
Percent of World Total	2.6%	2.6%	2.5%	2.5%	2.5%
North Korea					
Million Troy Ounces	9.6	9.6	9.6	9.6	9.6
Percent of World Total	2.0%	2.1%	2.0%	2.0%	2.0%
All 46 Other Countries					
Million Troy Ounces	76.2	78.6	77.6	77.5	76.3
Percent of World Total	16.3%	17.0%	16.1%	16.2%	16.2%

INDIAN SILVER

Timothy S. Green

INDIAN SILVER

This report focuses on the silver business in India itself, rather than the broader framework of the Indian sub-continent, which includes Pakistan, Bangladesh, Sri Lanka and Nepal. The statistics in it relate specifically to India. For the rest of the sub-continent, current demand for new supplies of silver (as opposed to internal recycling) is very modest compared to India; probably no more than 5-7 million troy ounces was required in 1990—scarcely 10 per cent of what India absorbed. But discrepancies in published estimates do arise, because of a lack of definition as to whether they cover India itself or the whole sub-continent, and differences in assigning how much silver ends up in India, and how much in its neighbours, since all imports are unofficial and clandestine.

1. Historical Background

Silver is inextricably entwined in the monetary and economic history of India. Since ancient times it has been used for currency and during the British rule of India it was, much more than gold, the basic medium of exchange. In an essentially agrarian economy, silver rupees met the needs of most local business transactions.

The focus of the international silver trade from the 17th century onwards was primarily the routing of the metal from the mines of South America to Europe, mainly London, and then on the East India Company ships to the East. The gold-silver ratio itself reflected that pull: in South America it was 1:17, in London 1:15, in India around 1:12. Silver was more highly valued in the East, that was where it went to pay for cottons and silks and spices. As Professor Simha of India’s Institute for Financial Management and Research summed it up, “For almost two centuries, India has occupied a strategic place in the bullion trade”.

The resulting stocks place India in a unique position in the world of silver. A report published by the Reserve Bank of India in 1958 estimated that up to 1948 the total stock for the whole Indian subcontinent, including Burma, Pakistan and what later became Bangladesh, was 5,400 million ounces. This had been accumulated:

	Million ounces
1493-1834	1350
1835-1836	1040
1887-1948	<u>3010</u>
	5400

The statistics have reasonable grounding in that from the 1660s onwards there is an accurate record of East India Company silver shipments to the East, and Indian import records date from 1835.

The Reserve Bank report split the 1948 stock, on the basis of population, assigning 4,200 million ounces to India itself, the balance to Burma and Pakistan. They also added 35 million ounces for domestic production and imports 1948-1958. Thus, according to the central bank, in 1958 India had 4,235 million ounces of silver.

Since then three factors have changed this position: domestic production, imports/exports (both legal and illegal), and domestic consumption in industry from which there is relatively little recycling.

Domestic production is limited to small by-product of zinc and copper mining, and has amounted to around 12 million ounces 1959-1990 (see **Table 1**).

Imports/exports, discussed in detail below, have resulted in a net outflow of 451 million ounces, 1959-1990.

Industrial consumption, assuming no recycling, would have consumed about 30 million ounces between 1958 and 1990.

Thus the net stock remaining in India at the end of 1990 can be assessed as:

	Million ounces
1958	4235
+ domestic production	<u>12</u>
	4247
– net exports	427
– industrial consumption	<u>30</u>
1990 remaining stock	3790

To put this in perspective, it compares with US Government silver stocks of 114 million ounces (over 33 times the size), world-wide government holdings of 212 million ounces, reported total stock levels of 505 million ounces in 1990, and world fabrication demand of 469 million ounces. It amounts to about eight times current world mine annual production.

2. Indian Silver Price

Because the free import of silver to India has been banned since 1948 and legal export on any significant scale permitted only from 1974-1979, the silver price in India has remained largely insulated and isolated from the fluctuations of the international price, as the accompanying table shows (**Table 2**). In rupee terms, the price has appreciated steadily over the years and the difference between the Bombay price and London or New York has often been substantial. At the peak New York silver price of \$48 an ounce in January 1980, the Bombay price was about \$8.50 an ounce (taken at the Hawala, or unofficial exchange rate). Eleven years later, in January 1991, the position had rather reversed; the Bombay price was around \$9 an ounce against New York at under \$4.

In fact, for much of the last twenty-five years, the Indian silver price has been below “parity” with the international price: the turnaround to a premium in Bombay only occurred in 1984, but since then has become increasingly attractive. The premium on silver at close to 100 per cent maintained through most of 1990, easily exceeds that on gold, where the Bombay price averages only 25-30 per cent above London. The assessment of the relationship between the Bombay and New York price is based on the ‘Hawala’ rate, not the official exchange rate.

3. Imports/Exports

The changing relationship between the Bombay and the international price has, naturally, dictated the import/export pattern shown in **Table 3**.

Since export was officially forbidden, unofficial shipments began very modestly in 1965, initially mainly as part payment for gold being smuggled in as there was no real profit on silver. The rise in silver prices in 1968, to average \$2.14 an ounce, accelerated the flow to 80 million ounces in that year. When silver prices again surged ahead in 1973-74, so did Indian exports. And from February 1974 they were permitted officially. Initially licensed dealers could export themselves; from 1976 all exports were channeled through the government's State Trading Corporation. In all, over 200 million ounces were exported officially from 1974-1979. In February 1979, officially exports were again banned, on the grounds that, as world prices rose, India's silver stocks were

being drained. Immediately unofficial exports began, accounting for a further 80 million ounces by 1985. By then, world prices had fallen below "parity". Suddenly Bombay's price was at a premium: unofficial export gave way to unofficial import. Between 1986 and 1990 at least 108 million ounces came into India, over half of it in 1990 alone. The most tangible evidence of the huge increase in unofficial imports has been the rapid rise in seizures of contraband silver by the authorities. This has risen from a mere 350,000 ounces in 1986 to 3,200,000 ounces in 1989 and an astonishing 6,880,000 ounces in 1990. The full details of seizures are set out in **Table 4**.

The turnaround from silver exports to substantial imports is a result of substantial change within the Indian economy during the 1980s.

4. The changed pattern of the Indian Silver Market

Historically the fragile nature of the economy in the rural areas of India meant that there was considerable internal recycling of silver through distress selling from areas affected by drought, famine or flooding. In the 1960s and 70s there was also some switching from holding silver to gold ornaments. India was thus self-sufficient in silver; all modest industrial and jewellery needs could be met. Normally, there was surplus for exports, especially as the steady rise in silver prices, even in rupee terms, attracted silver from long-term hoards. In 1980, for instance, dis-hoarding of silver in India amounted to over 50 million ounces, of which only 22 million was required for domestic consumption. The rest was available for export. During the late 1980s, however, greater prosperity, especially excellent harvests right across the agricultural sector, caused this dis-hoarding to decline. Since Indian farmers have a considerable political voice, the government has increasingly cushioned them with credits making them much less vulnerable to the short-term effect of a bad monsoon decimating their harvest. By 1986, local recycling no longer met new domestic demand for industrial and decorative uses. By 1990 there was no measurable dis-hoarding at all, leaving domestic needs to be met entirely by imports.

Meanwhile, that domestic demand has also expanded not just in industrial use, but in a much broader range of decorative, gift, and investment items. This changed pattern is summarised in **Table 5**.

5. Industrial Applications

Industrial demand in India effectively doubled in the 1980s, from 9.6 million ounces in 1980 to 19.2 million ounces in 1990.

The main applications are:

	Million ounces
Photographic	5.6
Plating	4.8
Electronics	4.0
Brazing alloys	2.4
Foil	1.0
Other uses	<u>1.4</u>
Total	19.2 million ounces

All applications have shown considerable growth in the last decade, with electronics up 400%, brazing alloys 250%, plating 49%, and photography by 45%.

Plating embraces a wide range of watch cases and straps, silverware, picture frames, and a current fashion for silver belts.

Foil is the wafer-thin silver tissue which is often added to various dishes and sweetmeats; it is also added to chewing tobacco.

The silver thread, or jari, used for decoration in India sarees, is sometimes included in statistics of industrial uses, but for the purposes of this report it is included in decorative applications.

6. Decorative Applications

Decorative demand in India in 1990 consumed an estimated 35.6 million ounces of silver, compared to 11.4 million ounces in 1980.

The main applications:

	Million ounces
Jewellery/ornaments	13.0
Silverware	10.0
Jari	3.2
Coins/medals/ commemorative gifts/ investment items	<u>9.4</u>
Total	35.6 million ounces

Silver jewellery and ornaments have also been used for adornment and saving among the poorer people in India and, despite considerable expansion in gold ornaments, they remain very popular in many communities, especially in such states as Rajasthan. The rapidly increasing use of silver for small gifts on many occasions is also helping to expand demand.

Silverware is still very widely used in many Indian homes. A definitive report on silver by the Indian Institute for Financial Management and Research observed, "In some communities, the use of silver utensils for drinking (of water, milk, etc.) and eating is widespread, on account of its bactericidal and germicidal properties. Even today, millions of Indians drink water only out of silver cups and not brass or stainless steel or glass". The greater prosperity in the cities during the last decade has led to a further resurgence of silver utensils for everyday use at least in the most prosperous homes.

Jari, which is the silver thread twisted on silk or cotton to serve as a border mainly for sarees for Indian women, but also for dhotis worn by men, is also very much in fashion. The jari industry, centered mainly in the city of Surat, has expanded considerably, and silver use has virtually doubled in the last few years.

Commemorative gifts in the form of small bars of 10, 25 and 50 grams, and medallions have become an important new sector of the market in the last four or five years. As the Bombay Bullion Association noted in its annual review in 1988, "Medallions which are round silver coins with the symbol of gods and goddesses embossed on them, have become a very popular form of gift item and have replaced gold as a gift at the time of marriage and social functions". Silver medals of close to one ounce are now frequently presented to several hundred guests at important marriages. The series of ceremonies at a single marriage may call for several thousand ounces of silver. The custom has now extended to some of India's largest companies who commission silver medals as presents to long-serving employees or to mark special occasions. These silver bars and medals are largely retained as investment items.

7. The Prospect for Indian Silver Demand in the 1990s

The strength of the Indian silver price, whose premium over the world price has continued to grow through 1990 and early 1991, suggests that demand will remain firm. However, in the short term of 1991, there may be a pause in growth of silver demand. India is suffering a severe balance of payments problem brought on by higher oil prices in 1990, less remittances from workers in the Gulf because of the war, and less exports of everything from jewellery to vegetables to the Gulf. The rupee has declined sharply against the dollar and may slip further. So far, this has not influenced unofficial silver imports, indeed the premium has continued to rise. But that has more to do with the weak international price of silver. The outlook for 1991 must be that silver imports will remain at a high level, certainly 40-50 million ounces, but will not show the exceptional rise of recent years. The Indian government is also trying to diffuse the market slightly by selling silver to industrial users. The government holds just over 10 million ounces of silver confiscated from smugglers, which could meet part of the demand. In March 1991 the government announced they were ready to sell significant amounts of this stock by an open tender system. Initially, however, dealers were sceptical that the reserve price the authorities were setting on the silver would make it as attractive as the unofficial supplies.

Meanwhile, the current strain on the Indian economy, with inflation approaching 12%, will lead to a slow-down in industrial growth. Consequently, silver demand will probably remain static and may decline slightly. But it will still need to be supplied largely from overseas. That too is the longer-term outlook for the 1990s. India simply is no longer self-sufficient in silver and, as with gold, will be a considerable buyer on world markets.

TABLE 1

INDIAN SILVER PRODUCTION

<u>Year</u>	<u>Ounces</u>
1970	not available
1971	not available
1972	not available
1973	137,000
1974	147,000
1975	84,000
1976	102,000
1977	104,000
1978	390,000
1979	370,000
1980	366,000
1981	556,000
1982	463,000
1983	508,000
1984	509,000
1985	816,000
1986	1,134,000
1987	1,220,000
1988	1,317,000
1989	1,141,000
1990	1,125,000

By-product of zinc and copper produced by Hindustan Zinc Ltd. and Indian Copper Ltd.

Source: Indian Bureau of Mines.

TABLE 2

INDIAN SILVER PRICES

<u>Year</u>	<u>Bombay (Rs/Kg)</u>	<u>New York (\$/oz)</u>	<u>New York* (Rs/Kg)</u>	<u>Premium/Discount Bombay v. New York</u>
1965	315	1.29	248.87	+66
1966	359	1.29	373.31	-14
1967	430	1.55	448.55	-19
1968	557	2.14	619.29	-62
1969	489	1.79	518.01	-29
1970	536	1.77	540.67	-5
1971	561	1.55	473.47	+88
1972	554	1.68	513.18	+41
1973	796	2.56	781.99	+14
1974	1,122	4.71	1,438.75	-317
1975	1,169	4.42	1,350.16	-181
1976	1,249	4.35	1,328.78	-80
1977	1,291	4.62	1,411.25	-120
1978	1,391	5.40	1,649.52	-259
1979	2,298	11.09	3,387.62	-1,090
1980	2,700	20.63	6,965.11	-4,265
1981	2,642	10.52	3,551.77	-910
1982	2,737	7.95	2,811.90	-75
1983	3,424	11.44	4,325.86	-902
1984	3,514	8.13	3,811.43	-297
1985	3,880	6.14	3,233.86	+646
1986	4,106	5.47	2,685.75	+1,420
1987	5,166	7.01	3,601.92	+1,564
1988	6,390	6.53	3,750.02	+2,640
1989	7,060	5.50	3,506.91	+3,553
1990	6,779	5.03	3,480.57	+3,298

* Calculated at the Hawala, or unofficial, dollar exchange rate. The real difference between Bombay and New York can only be determined by taking this rate.

TABLE 3

INDIAN SILVER IMPORTS AND EXPORTS

Year	(million ounces)			
	Imports		Exports	
	Illegal Imports	Legal Imports	Illegal Exports	Legal Exports
1965	—	—	6	—
1966	—	—	8	—
1967	—	—	20	—
1968	—	—	80	—
1969	—	—	30	1.73 by State Bank of India
1970	—	—	25	—
1971	—	—	16	—
1972	—	—	13	—
1973	—	—	20.09	—
1974	—	—	16.08	43.72
1975	—	—	—	51.44
1976	—	—	1.61	52.89
1977	—	—	1.61	23.28
1978	—	—	2.25	29.19
1979	—	—	12.86	6.59
1980	—	—	20.09	1.29
1981	—	—	13.34	0.32
1982	—	—	11.25	0.32
1983	—	—	20.58	0.64
1984	—	—	1.13	0.16
1985	—	—	0.39	0.06
1986	4.82	—	—	—
1987	4.00	0.09	—	—
1988	8.00	0.31	—	—
1989	26.00	0.49	—	—
1990	60.00	0.72	—	—
Total	<u>102.82</u>	<u>1.61</u>	<u>319.28</u>	<u>212.53</u>
Total Imports			531.81	

TABLE 4

SEIZURES OF SILVER

Year	Ounces
1977	3,537
1978	19,644
1979	173,899
1980	989,931
1981	152,359
1982	22,794
1983	1,033,365
1984	24,241
1985	4,308
1986	352,010
1987	545,328
1988	546,550
1989	3,182,850
1990	6,880,100

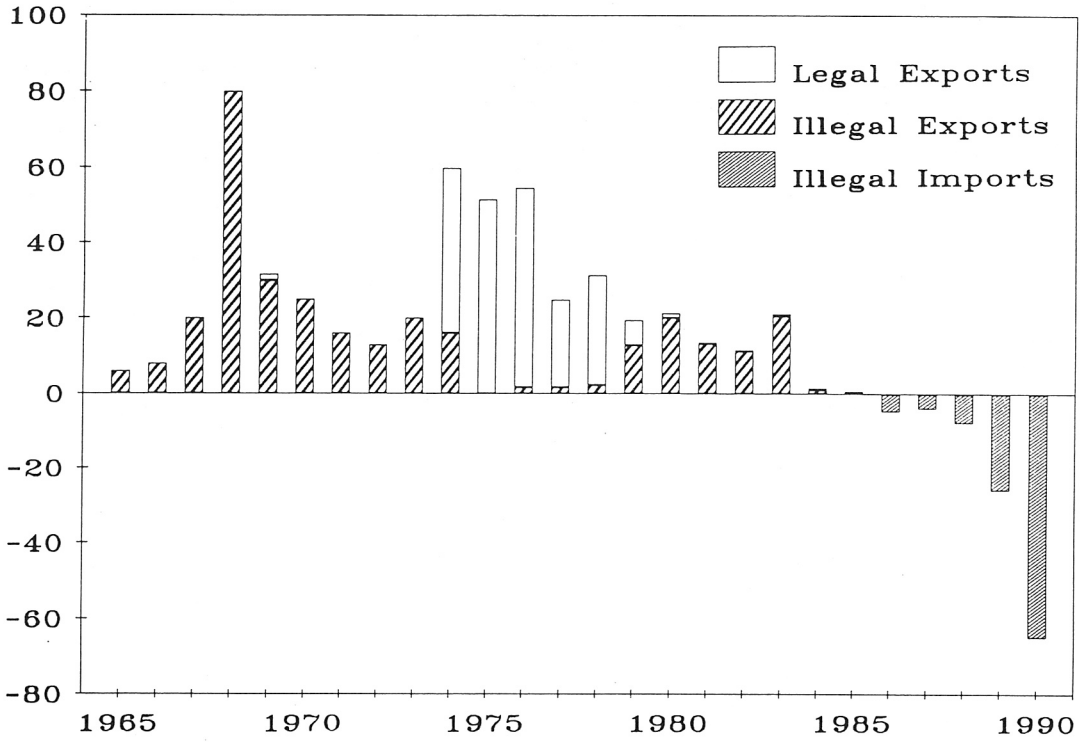
TABLE 5

INDIAN SILVER

Year	(million ounces)					
	<u>Domestic Production</u>	<u>Internal Disharding</u>	<u>Exports/ Imports</u>	<u>Industrial Use</u>	<u>*Ornamental Gifts</u>	<u>Official Seizures</u>
1980	0.37	51.44	-21.38	9.65	19.79	0.99
1981	0.56	41.80	-13.66	9.65	18.90	0.15
1982	0.46	35.37	+11.57	9.65	14.59	0.02
1983	0.51	45.01	-21.41	11.25	11.83	1.03
1984	0.51	33.76	-1.29	11.25	21.49	0.24
1985	0.82	25.72	-0.45	12.06	14.03	0.004
1986	1.13	17.68	+4.82	12.86	10.42	0.35
1987	1.22	14.47	+4.02	13.66	5.50	0.55
1988	1.32	13.18	+8.04	14.47	7.52	0.55
1989	1.14	1.93	+26.50	14.47	11.92	3.18
1990	1.13	—	+60.64	19.29	35.60	6.88

* This sector includes jewelry, utensils, saris, medals, gift items and investment

INDIAN SILVER FLOW, 1965-1990
(million troy ounces)



SILVER PRICE MARGIN BETWEEN BOMBAY AND NEW YORK

(Rs/Kg)

