THE GOLD AND SILVER INDUSTRIES IN THE WORLD, UNITED STATES AND ARIZONA

SALIENT STATISTICS

TEN-YEAR PERIOD, 1951-1960

Compiled By

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THE GOLD INDUSTRY

GOLD IN 1960

Reported by U.S.B.M. in Mineral Market Report No. 3268
Prepared July 28, 1961 by J.P. Ryan and Kathleen M. McBreen
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Mine production of gold in the United States increased 4 percent in 1960 to 1.7 million ounces valued at $58.3 million, according to the Bureau of Mines, United States Department of the Interior. The 1960 gain reversed the declining trend of the preceding 4 years which had reduced gold output to the lowest peacetime level in 68 years. The increase in domestic output resulted from greater output of gold-bearing copper ore at major mines in Utah, Arizona, and Montana following settlement of strikes which had reduced last year's output. The increased recovery of byproduct gold more than offset lower output from straight gold mines. Rising costs of labor and supplies in relation to the fixed price of gold continued to hamper gold mining. Gold production from placers in Alaska and California continued to decline, reaching the lowest levels, respectively, since 1945. The sharp drop in Nevada's gold production resulted from the loss in output following closing of the Round Mountain mine, the State's largest gold producer in 1959. Of the total domestic gold production, 48 percent was recovered from gold ores, 16 percent from placers and 36 percent as a byproduct of base-metal ores.

The four leading gold-producing States, South Dakota, Utah, Alaska, and Arizona, furnished nearly three-fourths of the total domestic output. California dropped from fourth to sixth place behind Arizona and Washington. South Dakota's gold came from gold ore at Homestake mine, and Alaska's production came almost entirely from gold placers. Arizona's gold production, like that of Utah, was almost exclusively a byproduct of base-metal ores, chiefly copper.

World gold production continued to rise for the seventh successive year to a new high of 45 million ounces valued at $1,575 million. As in several preceding years, the increase in world gold production was attributed principally to expansion of output by the Union of South Africa, but in 1960 an increase in the estimated output of the U.S.S.R. also was a contributing factor. Gold reserves held by free-world banks and governments were estimated at $40.5 billion at yearend, a gain of about $333 million for the year.

The heavy outflow of gold resulting from continued balance-of-payments deficits and conversion of dollar credits by foreign central banks reduced the U.S. gold reserve $1.7 billion to $17.8 billion at yearend. The U.S. reserve thus comprised about 44 percent of the free-world gold reserves.

A sharp increase in activity and a wide fluctuation in prices were salient features of the London gold market. The London price reached a high of $40.50 an ounce in October during a temporary supply shortage but fell below $36.00 near the end of the year as the supply of gold again became plentiful.

TABLE I

GOLD MONETARY STOCKS

End of Years 1950 to 1960 Inclusive -

In billions of dollars

	U. S. Monetary Stocks	U. S. % of World	World Monetary Stocks 1/ Estimated By Federal Reserve 2/
End of 1950	$ 22.7	63.4%	$ 35.8
" " 1951	22.7	63.15%	35.95
" " 1952	23.2	64.1%	36.2
" " 1953	22.0	60.8%	36.2
" " 1954	21.7	58.1%	37.35
" " 1955	21.7	58.4%	37.15
" " 1956	21.9	58.1%	37.7
" " 1957	22.85	58.7%	38.9
" " 1958	20.6	51.6%	39.9
" " 1959	19.5	48.0%	40.6
" " 1960	17.8	44.0%	40.5

1/ Excluding Russia; but includes International Monetary Fund.

2/ Total world gold reserves are not positively known, since some countries do not report.

Arizona Department of Mineral Resources August, 1961

TABLE II

WORLD PRODUCTION OF GOLD

1940 and 1959, 1960

Source: U.S.B.M. Unit: Troy Ounces

	1940	1959	1960
Union of So. Africa	14,037,741	20,064,105	21,383,019
Canada	5,311,145	4,483,688	4,602,762
United States *	4,862,979	1,635,000	1,667,000
Australia	1,191,481	1,089,574	1,082,784
Ghana	-	913,200	878,800
Southern Rhodesia	826,485	566,883	562,703
Philippines	1,140,126	402,615	410,618
Colombia	631,927	397,929	433,947
Belgian Congo	618,565	351,086	256,000
Mexico	883,117	313,662	300,256
Japan	1/	258,010	262,350
Brazil	318,935	180,000	120,000
India	289,357	165,383	160,593
Other Free Countries	6,857,142	1,788,865	1,681,168
TOTAL FREE WORLD (Estimated)	36,969,000	32,610,000	33,802,000
U.S.S.R. (Estimated)	5,787,000	10,000,000	11,000,000
N. Korea.	-	130,000	130,000
Yugoslavia	75,000	60,000	67,517
TOTAL COMMUNIST CONTROLLED.	5,862,000	10,190,000	11,198,000
TOTAL WORLD (Estimated)	42,831,000	42,800,000	45,000,000

* Refined production.

1/ Date not available. Estimate included in total.

TABLE III

SALIENT STATISTICS OF GOLD IN THE UNITED STATES BY YEARS, 1951-1960

Source: U.S.B.M. Bureau of the Census

	1951	1952	1953	1954	1955
Mine Prod. fine ozs.	1,980,663	1,893,261	1,958,293	1,837,310	1,880,142
Refined Production	1,894,726	1,927,000	1,970,000	1,859,000	1,876,830
Ore(dry & siliceous) produced (S.tons)					
Gold ore	2,606,202	2,339,160	2,198,688	2,248,604	2,234,000
Gold-Silver	368,184	237,211	81,658	46,345	120,000
Silver ore	492,143	502,208	555,050	680,442	570,000
Percentage derived from-					
Dry & siliceous ores	39	40	40	43	41
Base-metal ores	36	38	39	34	37
Placers	25	22	21	23	22
Net consumption in industry and arts 1/	1,985	2,753	2,143	1,270	1,300
Imports 1/	2,322	21,140	1,344	1,083	2,930
Exports 1/	18,010	1,598	1,280	494	162
Monetary stocks(End of yr.) 2/	$22,695	$23,186	$22,030	$21,713	$21,690
Price,avg.,per fine oz. 3/	$ 35.00	$ 35.00	$ 35.00	$ 35.00	$ 35.00
World prod.,fine ozs., (estimated)	33,500,000	34,300,000	33,700,000	35,100,000	36,300,000

	1956	1957	1958	1959	1960
Mine Prod. fine ozs.	1,832,584	1,793,597	1,739,249	1,602,931	1,666,772
Refined Production	1,865,200	1,800,000	1,759,000	1,635,000	1,667,000
Ore(dry & siliceous) produced (S. tons)					
Gold ore	2,255,000	2,359,000	2,411,000	2,289,000	2,267,000
Gold-Silver	245,000	116,000	107,000	137,000	347,000
Silver ore	687,000	712,000	639,000	597,000	641,000
Percentage derived from-					
Dry & siliceous ores	42	43	47	50	47
Base-metal ores	39	38	32	28	37
Placers	19	19	21	22	16
Net consumption in industry and arts 1/	1,400	1,450	1,833	2,522	N.A.
Imports 1/	3,730	7,701	8,120	8,485	9,322
Exports 1/	734	4,806	886	50	47
Monetary stocks(End of yr.) 2/	$21,949	$22,857	$20,582	$19,507	$17,804
Price.avg.,per fine oz. 3/	$ 35.00	$ 35.00	$ 35.00	$ 35.00	$ 35.00
World prod.,fine ozs., (estimated)	38,400,000	39,600,000	40,600,000	42,800,000	45,000,000

1/ Thousands of ounces.
2/ Owned by Treasury Dept.; privately held coinage not included- In millions of dollars.
3/ Price under authority of Gold Reserve Act of Jan. 31, 1934.

TABLE IV

U. S. GOLD AND SILVER PRODUCTION IN 1941 COMPARED WITH AVERAGE ANNUAL PRODUCTION FOR 1943- 1959 INCLUSIVE

Source: U.S.B.M.

	GOLD ORES	GOLD-SILVER ORES	SILVER ORES	DRY & SILICEOUS ORES		PLACERS	
	Tons	Tons	Tons	Ozs.Gold	Ozs.Silver	Ozs. Gold	Ozs.Silver
1941	15,117,117	1,447,371	1,074,543	2,582,743	27,609,533	1,487,635	194,128
Avg.1943-1959	2,598,645	283,826	514,164	723,299	10,831,710	415,113	51,482

	COPPER ORES	Pb-Zn-Cu ORES	ALL BASE METAL ORES	COPPER ORES		Pb-Zn-Cu ORES	
	Tons	Tons	Tons	Ozs. Gold	Ozs.Silver	Ozs. Gold	Ozs.Silver
1941	74,170,056	8,265,580	82,435,636	561,257	18,790,967	119,230	20,664,369
Avg.1943-1959	93,034,550	10,576,400	103,610,950	486,935	9,206,011	134,632	15,950,420

	TOTAL DRY & SILICEOUS ORES & PLACERS		TOTAL BASE METAL ORES		GRAND TOTAL GOLD & SILVER	
	Ozs. Gold	Ozs.Silver	Ozs. Gold	Ozs.Silver	Ozs. Gold	Ozs.Silver
1941	4,070,378	27,803,661	680,487	39,455,336	4,750,865	67,258,997
Avg.1943-1959	1,138,412	10,883,192	621,567	25,156,431	1,759,979	35,989,623

TABLE V

COMPARATIVE ARIZONA & U.S. GOLD AND SILVER PRODUCTION
FROM GOLD, GOLD-SILVER, SILVER LODE MINES, GOLD-SILVER PLACERS, AND
BASE METAL LODE MINES - YEARS 1941 AND 1959

Source: U.S.B.M.

1941:	GOLD, GOLD-SILVER, SILVER LODE MINES			GOLD-SILVER PLACERS		TOTAL GOLD, SILVER LODES & PLACERS	
	Tons Ore	Ozs. Gold	Ozs. Silver	Ozs. Gold	Ozs. Silver	Ozs. Gold	Ozs. Silver
Arizona	975,790	144,198	1,195,814	11,931	2,205	156,129	1,198,019
Per Ton		0.148	1.225				
United States	17,639,031	2,582,743	27,609,533	1,487,635	194,128	4,070,378	27,803,661
Per Ton		0.1464	1.565				

1941:	BASE METAL LODE MINES		
Arizona	24,516,004	159,263	6,300,241
Per Ton		0.0065	0.257
United States	82,435,636	680,487	39,455,336
Per Ton		0.0083	0.479

GRAND TOTAL ALL MINES

	Tons Ore	Ozs. Gold	Ozs. Silver
Arizona	25,491,794	315,392	7,498,260
U. S.	100,074,667	4,750,865	67,258,997

1960:	GOLD, GOLD-SILVER, SILVER LODE MINES			GOLD-SILVER PLACERS		TOTAL GOLD, SILVER LODES & PLACERS	
	Tons Ore	Ozs. Gold	Ozs. Silver	Ozs. Gold	Ozs. Silver	Ozs. Gold	Ozs. Silver
Arizona	146,964	1,325	34,581	77	8	1,402	34,589
Per Ton		0.095 0.0095	0.258				
United States	3,022,224	801,378	13,918,156	358,576	64,931	1,159,954	13,983,087
Per Ton		0.265	4,605				

1960:	BASE METAL LODE MINES		
Arizona	53,617,861	123,225	3,865,445
Per Ton			
United States	100,430,708	443,848	17,211,011
Per Ton			

GRAND TOTAL ALL MINES

	Tons Ore	Ozs. Gold	Ozs. Silver
Arizona	53,764,825	124,627	3,898,336
U. S.	103,452,932	1,603,802	31,194,098

Arizona Department of Mineral Resources

August, 1961

Mr. Elgin Groseclose, head of a firm of international financial consultants in Washington, has contributed an article on "Gold, Silver and the Monetary Problem" in the February, 1961 issue of the "Mining Congress Journal". As he is a world renowned authority on gold, a few paragraphs have been abstracted from this article in reference to the gold problem:

"Caught in a squeeze of price ceilings and steadily rising mining and labor costs, mining of the precious metals has become increasingly unprofitable, and mine after mine is being closed down or abandoned outright.

Visible Shortage of Precious Metals

Events are moving, however, to create a new optimism for the gold and silver miner. Through a cloud of monetary statistics, a jungle of economic verbiage, and a smoke screen of official denials, the fact of a world shortage of the precious metals is becoming visible. Both gold and silver are in short supply to meet a voracious demand both for monetary and industrial use.

The existence of a shortage is stoutly denied in official quarters. Indeed, we see here a paradox -- a public policy of stockpiling stragegic materials along with a policy of selling off at bargain prices the two most strategic materials in any nation's arsenal -- gold and silver, regarded as the very "sinews of war" in classical statecraft. Gold at $35 an ounce is obviously a bargain to foreigners that they should be buying it so heavily, taking $1.5 billion in 1960, and nearly $7 billion since the run began in 1949.

The Gold Shortage

Despite official equanimity, gold appears to be in exceedingly short supply and a rise in price inevitable, either through currency revaluation or through forced and extra-ordinary deflation and contraction of currency and credit supplies.

In support of this view we may note the following:

Industrial production in the Western World has been expanding at the rate of almost five percent per annum over the past decade, and the volume of imports by the industrialized countries by six percent. Monetary gold available to support this expansion in trade has been growing at a rate of two percent per annum.

There is no proof of a mechanical relationship between the quantity of money and the quantity of goods in exchange, nor does the so-called velocity of money have anything to do with the price level. What is important, however, is that the febrile economic activity we have been witnessing has created a heavy demand for credit, so that central banks have been putting more and more into circulation with a consequent dilution of reserves.

Depreciating Value of Money

The optimists point out that the rate of monetary expansion has slowed down. In the recent five-year period, 1954-59, according to data compiled by the First National City Bank of New York, the depreciation of the dollar has been at a 1.7 percent annual rate compared with 2.3 percent for the years 1949-54. In Great Britain, the slide of the pound has slowed from 4.9 percent a year to 3.2 percent, and the Dutch guilder from 4.6 percent to 2.5 percent per year.

This view is like looking at the receding waves of an incoming tide. The underlying movement is definitely inward, that is, inflationary, and if sluggish at the moment, will surely accelerate. Ten years is really too short a period to observe the decay to the world currency systems from the cancer of inflation. However, a window has been opened into the organism by some statistics on world currency supply computed and collated by the International Monetary Fund.

Using 1953 as a basis, the index of world currency supply rose from 84 in 1950 to 135 in 1959, an expansion of 60 percent in less than a decade. For North America, the increase in money supply was 16 percent; in Latin America, the money supply quadrupled; in Continental Europe, it doubled.

The Inflationary Tide

These figures are meaningful only when related to what they purport to represent. The definition varies from country to country, but in general they refer to circulating notes and demand deposits. What, ultimately, do these pieces of paper and these symbols in a bank ledger mean? Demand deposits are convertible into circulating notes, and the circulating notes into what? Theoretically and ideally, in every case, into a given quantity of gold. In the case of the U.S., this quantity is 15 and 5/21 grains of gold, 9/10 fine for every dollar.

However, in this country, and in most countries of the world, the government refuses to redeem these obligations in gold except in overseas transactions. Why is that? Because a government, being sovereign, can compel its citizens to accept pieces of paper at a stated date, but it cannot compel those beyond its frontier to do so. Therefore, for them, these pieces of paper must represent gold. Here is the driving urge of governments to acquire gold -- to maintain the international convertibility of their currencies.

Two urgent considerations press upon sovereignties to maintain gold reserves against their currencies. The first is the tenuous and evanescent character of individual enthusiasm which, in mass, creates the market atmosphere of boom or depression. Too much economic writing deals with the business cycle in terms of physical output and demand. Too little attention is given the psychological factors in business -- probably because the moods of the human spirit are not subject to charting.

Here, however, is the great domestic unpredictable which monetary managers continually face. When will public confidence run out; when will people, en masse, in a fear that the cycle has run its course, that prices have reached their peak, begin to liquidate their security accounts, their inventories, their bank balances, and demand cash? When this mood captures the economy, what will the monetary authorities offer to restore confidence?

Even more unpredictable are the changes of mood and fortune in the international scene.

In a condition of static international trade, goods would exchange evenly for goods, and little gold might be required to settle balances. But international trade is never static. In addition to the strains and imbalances caused by technological change, and changing patterns of demand, we are in an era of vast political changes, upheavals, and uncertainties, and it is these unpredictables which the theoreticians are inclined to overlook, but which give added urgency to the problem of gold supply.

Dollars as International Reserves

Turning again to the statistics compiled by the International Monetary Fund, we observe that in this same interval in which money supply rose by 60 percent, the monetary gold stock of its member countries increased from $35.4 billion to $40.2 billion, or less than 14 percent.

However, an appearance of substance has been achieved by two devices -- one, an increase of dollar assets by transfer abroad of the gold behind them, mainly to Europe. Thus, in the nine-year interval, foreign central banks and monetary authorities doubled their holdings of dollars from $4.4 billion at the end of 1950 to $9.2 billion at the end of 1959. Additional billions of dollar credits have been acquired by private interests abroad. In addition, title to about $5 billion of U. S. gold was transferred to others during these years. This has been possible largely as a result of our policy of foreign military and economic aid, and the astuteness of our foreign friends in drawing down foreign aid in gold and dollars instead of goods.

This outward movement of U. S. gold and dollar assets, mainly to Europe, has been to European economies like a benzadrine pill to an exhausted student, but it has debilitated the U. S. monetary system more than most people realize. The U. S. gold stock has dropped from $24.5 billion at the end of 1949 to less than $18 billion currently, and is still falling.

Foreign claims on U. S. gold are steadily rising. The adverse balance of payments, which began in 1949, is still running against us and may be as much as $4 billion for 1960. The Federal Reserve system has managed to draw in the reins somewhat; yet the ratio of gold to currency and deposits is today below the crucial levels of the Great Crash -- that is, around seven percent compared with 9.6 percent in 1933, the first year we were off the gold standard.

Here, of course, is incipient tragedy. For if the dollar should collapse, we would witness a debacle that could well mean the end of Western civilization and the triumph of Communist Totalitarianism.

Following is a statement presented before the Western Governors' Conference, Salt Lake City, Utah, May 16, 1961, by L. L. Huelsdonk, General Manager - Best Mines Co. Inc., Downieville, California:

G O L D

STATEMENT PRESENTED BEFORE THE WESTERN GOVERNORS' CONFERENCE
SALT LAKE CITY, UTAH - MAY 16, 1961

Submitted by

L. L. Huelsdonk - General Manager - Best Mines Co. Inc., Downieville, California.

The United States - prior to World War II - was the second largest gold producer in the world. Today - Russia holds that position and is now producing at least five times more gold than this country.

The United States on the other hand - through government regulation and national policy has forced 97% of its gold mines to close down because the gold miners are required to sell their gold at the 1934 price of $35.00 per ounce - in the face of mining costs which have risen over 300%.

By law the miner must sell his gold to the government and in turn the government must sell the same gold to the domestic user and the foreigner for the same low price it pays the miner - This forces the gold miner to become a partner with the government to subsidize the domestic usage of gold and the importation of foreign goods.

Since the end of World War II the government has sold to the industrial, professional and artistic users of gold 166 million dollars more than our miners produced in the same period.

These sales, added with the tremendous withdrawal of gold from foreign claims, has caused the United States to lose over 5 billion dollars worth of monetary gold reserves in the past three years.

During World War II gold was declared non-strategic to the war effort. However, Treasury figures show that within three years of warfare, every single ounce of our net gold reserve* had been mortgaged in financing our fighting strength and that our war industries had demanded and were granted increasingly enormous amounts of gold from the Treasury stock. By the end of the war, sales to these privileged buyers had risen to more than 270 times the average yearly requirement for peace-time use. This indicates that gold is not only strategic to war -- but that it is also a sinew of war -- and that under present world tension, our gold supply should not be at the mercy of foreign demand.

In 1945, through the Bretton Woods Agreement, the U. S. dollar was set up to act as gold and with gold as an international standard to set the par values of foreign currency at the given weight and fineness of gold on July 1, 1944. However, no provision was made for adjusting an inflation-bound domestic dollar. Because of this neglect, inflation has persistently divided our dollar into two widely different values. This has upset all of the possibilities of maintaining the dollar as an international standard with gold, simply because American inflation automatically guarantees a decreasing value for the domestic paper dollar -- while gold redemption automatically guarantees stability of value for the foreign-held dollar.

* Gold above claims -- over 10 billion dollars.

The development of this double dollar standard has caused much economic trouble in this country which has been evidenced in our gold losses and in our dwindling ability to compete -- not from a productivity basis -- but from the exchange depreciation of our domestic paper dollar; which provides for the exportation of our industries and the domestic jobs which they support.

In other words, if a foreigner earned 35 of our dollars in 1945, he had a choice to buy either an ounce of our gold or 100 pounds of our goods. Today, he can still buy an ounce of our gold with his 35 dollars, but he can only buy 50 pounds of our goods. This is why he buys gold -- This is why our industries must move abroad in order to compete -- This is why we lose employment at home.

The steadily increasing variation in dollar values forces our industries to move much of their production abroad, rather than keep it at home in a hopeless attempt to defend an export position against the rising tide of international competition. This exportation of our domestic production will increasingly hire more foreign labor and widen the road to our unemployment offices, if positive steps are not taken -- because foreign-held dollars are privileged to buy American gold and, therefore, foreign goods at the 1944 price -- while American goods steadily increase in price.

While these industries are exporting jobs, Secretary of Labor Goldberg is asking for 10 million new jobs in 1962. The government is trying to fill his wish by creating federally-supported projects, increasing and extending unemployment benefits and raising the minimum wage. This, of course, is commendable, but it does not provide a solution. It can only generate more inflation and widen the gap between the gold and domestic dollar values and thus force more industries abroad where their paper dollar investments can turn into gold worth twice their domestic value.

Since the amount of potential demands for our gold by foreigners far exceeds the amount of gold that we own, a menace to our national solvency rests in the tempers of foreign official banks and governments. It is their decision that can draw out our gold -- not ours.

The only positive solution to this dilemma is to equalize and stop the growing difference between the values of our domestic paper dollar and that of our foreign-held gold dollar. By doing this, the billions of our foreign-held dollars would be released from the influence of our gold bargains and become free to purchase American goods on an equal level. This in turn would hire American workers and return American industry on an international competitive basis within its own boundaries.

Without the virtue of equality in exchange, dollars of the same denomination are not equal in value. The disequalibrium that now exists can only be corrected in two ways -- either by lowering the value of the foreign-held dollar in terms of gold until it equals the purchasing value of the domestic dollar in the terms of U. S. goods -- or by lowering prices and wages in America (via deflation) until the value of the domestic dollar is raised to the value of the foreign-held dollar.

In conclusion -- it might be pointed out that the complexity of this problem has taxed the brains of our financial experts and economic advisors, but to date no positive, simple, or understandable solution has been devised. In

the meantime the United States has lost at least 97% of her straight gold mining industry and over 20% of her gold reserve at a time when gold in the world is becoming increasingly important - and for the first time we are facing the possibility of a world war without a net reserve of gold*.

In this connection it might be pointed out that since the April meeting of your mining advisory council, a bill (HR 6900, Multer - N.Y.) to eliminate the 25% gold reserve requirement behind the dollar has been introduced and is coming up for a hearing before sub-committee # 3 of the House Committee on Banking & Currency. This bill also carries a rider which would permit the U. S. Government to pay special interest rates on securities sold to foreign central Banks and governments - that is, higher rates than paid Americans.

In effect this bill says that the United States is prepared to sell all of her gold and bankrupt herself if it comes to that, in order to prove that the international value of the dollar is as good as gold.

This bill will take away the last vestige of discipline from the over-expansion of bank credit and thus generate more inflation which, unquestionably, has been the fundamental cause of our gold losses as has been pointed out in the foregoing statement. Hasty action on such important legislation should be opposed.

* Gold above foreign claims.

JUSTIFICATION FOR A $35 BONUS ON GOLD

Because of the demands of the gold miners of the United States for relief from the unjust burden of trying to produce gold for a fixed price of $35 per ounce, while compelled to pay 1960 inflated prices to mine the gold, several bills have been introduced in Congress to pay the miners a bonus or premium to induce them to re-open their mines.

In order to get an idea of how much premium the gold miner should receive for his product, this Department has attempted to do this by making some assumptions as to how much the miner's cost of production in 1960 has increased since 1935:

Supposing a gold miner in 1935 produced a gold ore yielding ½ ounce of gold per ton, and it was costing $10 per ton to mine it. Receiving $17.50 for the gold, the profit would be $7.50 per ton.

The mean average commodity and wholesale price index in 1935 was 55.4 as compared with 123.0 in 1960 (see table below). This indicates an increase of 122% in the cost of living.

Assume cost of mining has gone up 122% in 1960 over 1935:

$10 + 122% = $22.20 cost of mining in 1960.
The $7.50 profit in 1935 would be equivalent in purchasing power of $16.65 in 1960.

$22.20 (cost of mining per ton of ore) plus $16.65 (profit) = $38.85
$38.85 = Amount miner should receive for his ½ ounce of gold in his ore.
- $17.50 = " " actually receives" " " " " " " " "
$21.35 = bonus miner should receive for his ½ ounce of gold in his ore.

In other words, his bonus should be 2 x $21.35 = $42.70 for 1 ounce of gold.

Therefore it would seem reasonable to pay the miner of a gold or gold-silver lode mine a premium of at least $35 per ounce for his gold. In the case of placers, the improved technology in recovering such gold has probably been enough to offset at least half of the increased costs, and a fair premium could be much less, say, ten dollars per ounce.

Although the ore in the base metal mines contain by-products of gold and silver, there is no valid reason why such producers should be compelled to sell their by-products at fixed prices which are far below the "Commodity Price Index". Why should they be expected to do this, any more than the producers of other commodities? The fact remains that they have been selling their gold to the Government at a fixed price for many years. It is true that paying them a premium may not result in increased production, but that does not alter the question of an equitable price for their products. In the case of lead-zinc mines, there would undoubtedly be increased production from many lead-zinc marginal mines which would be re-opened by the promise of better prices for their gold and silver.

COST OF LIVING INDEX (1947-1949 = 100)

	Consumer Index	Wholesale Index	Mean	% Increase in Cost of Living in 1960 over each year.
1935	58.9	52.0	55.4	122.0%
1940	59.9	51.0	55.5	122.0
1945	76.9	68.8	72.9	68.7
1950	102.8	103.1	103.0	19.4
1955	114.5	110.7	112.6	9.2
1960	126.5	119.6	123.0	-

LOSS IN GOLD PRODUCTION BLAMED ON GOLD MINE CLOSING ORDER AND HIGH COST OF PRODUCTION

A study of Table IV indicates that as a result of the Government's gold mine closing order (L-208) in1942, the United States has suffered a reduction in its annual gold production from 4,070,378 ounces in 1941 to an annual average of only 1,138,412 ounces for the years 1943 to 1959 inclusive. This loss has amounted to a total loss of at least 51 million ounces of gold in the past 18 years. There is no way of determining just what this loss might have been if gold mining had enjoyed the same growth rate which other metals in the mineral industry have experienced. In other words, the annual output of gold from gold lode mines and placers, by this time (1961), might well have reached 6.5 million ounces, assuming a growth-rate of only 3 percent per year since 1941.

PRODUCTION OF GOLD AND SILVER IN ARIZONA IN 1960

By Class of Ore In Terms of Recoverable Metal

Source	Number of Mines 1/	Material sold or treated (short tons)	Gold (troy ozs.)	Silver (troy ozs.)
LODE ORE:				
Dry gold	21	4,476	883	9,520
Dry gold-silver	7	121,761	700	33,210
Dry silver	14	92,263	1	14,073
TOTAL	42	218,500	1,584	56,803
Copper	44	66,032,439	115,602	3,689,622
Copper-zinc	4	147,541	92	50,555
Lead	9	4,202	128	33,738
Lead-zinc	4	337,070	24,493	919,054
Zinc	1	19,370	-	1,027
TOTAL	65	66,540,622	140,315	4,693,996
OTHER "LODE" MATERIAL:				
Gold tailings	1	15,240	740	11,898
Gold-silver and Silver tailings	2	15,542	10	779
Copper cleanup	2/	10,215	56	7,237
Copper precipitates	11	44,929	-	-
Lead cleanup	2/	8	-	184
Lead tailings	1	70	-	123
Lead-zinc mill cleanup	2/	32	5	392
Zinc cleanup	2/	86	217	503
Uranium ore	-	-	10	3,068
TOTAL	-	86,122	1,038	24,184
TOTAL "LODE" MATERIAL	106	66,845,244	142,937	4,774,983
GRAVEL PLACER OPERATIONS	5	-	127	9
TOTAL ALL SOURCES	111	66,845,244	143,064	4,774,992

1/ Detail will not necessarily add to totals because some mines produce more than one class of material.

2/ From properties not classed as mines.

Compiled by Arizona Department of Mineral Resources from U.S.B.M. Reports.

August, 1961

THE SILVER INDUSTRY

Silver in 1960

Reported by U.S.B.M. in Mineral Market Report No. 3267
Prepared July 31, 1961 by J. P. Ryan and Kathleen M. McBreen under supervision of P. F. Yopes, Chief, Branch of Nonferrous Metals, Division of Minerals.

Mine production of silver in the United States in 1960 dropped to a 14-year low of 30.8 million ounces, according to the Bureau of Mines, United States Department of the Interior. A 7-month strike at major silver and silver-lead-zinc mines in Idaho was the chief factor retarding production. The 1960 loss was the fourth successive drop in domestic silver production. Estimated industrial consumption of silver also declined slightly to about 100 million ounces attributed principally to lower demand from manufacturers of consumers durable goods.

Imports of silver, including lend-lease returns, dropped sharply for the third successive year, but exports nearly doubled. Sales of industrial silver and withdrawals for subsidiary coinage, partly offset by lend-lease returns and domestic purchases, reduced the Treasury free-silver stock nearly 30 percent to 123.5 million ounces, and total Treasury stocks dropped 3 percent to 1,992 million ounces at yearend.

Substantial production gains in Arizona, Colorado, Nevada, New Mexico, North Carolina and Utah failed to offset sharp losses in silver output in Idaho and Missouri. Despite the sharp drop in output, Idaho maintained its rank as the leading silver-producing State by a wide margin followed in order of output by Utah, Arizona, and Montana. These four States supplied 87 percent of the domestic production.

Most of the principal silver-producing countries recorded gains and estimated world silver production rose 6 percent to 233.4 million ounces. Free-world consumption of silver for industrial uses and coinage was estimated at 319.3 million ounces, an increase of 6 percent over 1959. United States consumption, aggregating 146 million ounces, thus was 46 percent of the total free-world silver consumption.

The New York market price remained unchanged at 91 3/8 cents an ounce and prices on the London market were steady, fluctuating in a narrow range slightly higher than the equivalent New York price.

Most of the industrial silver was again absorbed in the manufacture of photographic materials, solders and brazing alloys, and sterling and plated ware. New applications of silver in military and civilian products continued to expand, and established uses in the chemical and pharmaceutical fields, as well as in dental and miscellaneous products, continued to absorb substantial quantities of silver.

TABLE I

Salient silver statistics

	1956	1957	1958	1959	1960
United States:					
Mine production --thousand ounces ---	38,721	38,165	34,111	31,194	30,766
Value ----------thousands ---------	$35,045	$34,541	$30,872	$28,232	$27,845
Ore (dry and siliceous) produced (thousand short tons):					
Gold ore ----------	2,255	2,359	2,411	2,289	2,267
Gold-silver ore ----------	245	116	107	137	347
Silver ore ----------	687	712	639	597	641
Percentage derived from --					
Dry and siliceous ores ---------	29	32	41	45	37
Base-metal ores ----------	71	68	59	55	63
Imports, general--thousand ounces 1/	162,832	206,119	165,966	69,088	60,657
Exports 1/ ----------do-------	5,501	10,299	2,733	9,180	26,593
Stocks Dec. 31: Treasury million ounces--	1,981	2,014	2,106	2,060	1,992
Consumption in industry and the arts thousand ounces-----	100,000	95,400	85,500	101,000	(2)
Price: Treasury--per troy ounce 3/	$0.905+	$0.905+	$0.905+	$0.905+	$0.905+
World: Production--thousand ounces	4/225,600	230,800	238,500	4/221,200	233,400

1/ Excludes coinage.
2/ Figure not available.
3/ Treasury buying price for newly mined silver.
4/ Revised figure.

Compiled By Arizona Department of Mineral Resources from U.S.B.M. Report No. 3267 August, 1961

TABLE II

Mine production of recoverable silver in the United States,
by States in troy ounces

State	1959	1960
Alaska	21,358	25,934
Arizona	3,898,336	4,774,992
California	1/ 172,810	179,780
Colorado	1,340,732	1,659,037
Idaho	16,636,486	13,646,508
Kentucky	75	---
Missouri	339,760	15,594
Montana	3,420,376	3,606,991
Neveda	611,135	707,291
New Mexico	158,925	303,903
New York	51,588	49,324
North Carolina	16,319	212,368
Oregon	242	284
Pennsylvania	(2)	(2)
South Dakota	124,425	108,119
Tennessee	59,739	64,560
Utah	3,734,297	4,782,960
Virginia	866	---
Washington	2/ 606,537	2/ 628,678
Wyoming	---	4
Total	1/ 31,194,006	30,766,327

1/ Revised figure.

2/ Production in Pennsylvania and Washington combined.

Compiled By Arizona Department of Mineral Resources from U.S.B.M.Report No.3267

August, 1961

T A B L E III

WORLD PRODUCTION OF SILVER
BY YEARS - 1956-1960, AND 5-YEAR AVERAGE

Source: U.S.B.M. In Thousand Troy Ounces

	1956	1957	1958	1959	1960	5 YEAR AVERAGE
Mexico	43,078	47,150	47,592	44,075	44,526	45,284
United States	38,739	38,720	36,800	31,194	30,766	35,244
Canada	28,432	28,823	31,163	31,927	33,759	30,821
Peru	22,973	24,845	25,918	24,768	30,309	25,763
Australia	14,586	15,739	16,270	14,800	15,250	15,329
Japan	6,167	6,544	6,552	6,598	6,870	6,546
Belgian Congo	3,792	3,045	3,794	4,758	3,990	3,876
Other Free Countries . . .	32,433	30,530	33,911	31,880	31,230	31,997
TOTAL FREE WORLD	190,200	195,400	202,000	190,000	196,700	194,860
U.S.S.R. (Estimated) . . .	25,000	25,000	25,000	25,000	25,000	25,000
Other Communist (Estimated)	10,500	10,400	11,500	10,000	11,700	10,820
Total Communist Controlled	35,500	35,400	36,500	35,000	36,700	35,820
TOTAL WORLD.	225,700	230,800	238,500	225,000	233,400	230,680

T A B L E IV

FREE WORLD CONSUMPTION FOR PAST FIVE YEARS

In Millions of Troy Ounces as Reported By Handy and Harman

Year	UNITED STATES		REST OF FREE WORLD		TOTAL		GRAND TOTAL
	Arts & Industry	Coinage	Arts & Industry	Coinage	Arts & Industry	Coinage	
1956	100.0	31.2	110.2	25.3	210.2	56.5	266.7
1957	95.0	52.0	118.0	32.2	213.0	84.2	297.2
1958	85.0	36.2	102.4	26.9	187.4	63.1	250.5
1959	100.0	40.7	111.8	43.5	211.8	84.2	296.0
1960	100.0	46.0	116.0	47.3	216.0	93.3	309.3
5-Yr. Avg.	96.0	41.2	111.6	35.0	207.7	76.2	283.9

Arizona Department of Mineral Resources August, 1961

TABLE V

TREASURY SILVER

Millions of Troy Ounces

	Dec. 31 1960	Dec. 31 1959	Dec. 31 1958	Dec. 31 1957	Dec. 31 1951
Held in Treasury:					
Securing Silver Certificates:					
Silver Bullion	1,741.8	1,741.3	1,736.3	1,711.5	1,603.7
Silver Dollars	124.9	141.1	156.8	169.4	232.8
Subsidiary Coin	2.0	2.4	10.9	5.9	1.2
Free Silver Bullion	123.5	175.1	202.2	127.4	124.5
Total Treasury Stocks	1,992.2	2,059.9	2,106.2	2,014.2	1,962.2
Outside The Treasury:					
Silver Dollars	252.3	236.3	220.8	208.3	148.0
Subsidiary Coin	1,139.9	1,094.7	1,046.2	1,014.6	783.5
Total Silver Outside Treasury	1,392.2	1,331.0	1,267.0	1,222.9	931.5
Total Silver	3,384.4	3,309.9	3,373.2	3,237.1	2,893.7

Compiled from Engineering & Mining Journal's Annual Review, February, 1961

Arizona Department of Mineral Resources August, 1961

Mr. Elgin Groseclose, already quoted in the Section on the gold industry, has been discussed at length on the problems of the silver industry, and the following is abstracted from his "Gold, Silver, and the Monetary Problem" in the Mining Congress Journal of February, 1961:

Demonetization of Silver

The facts regarding silver are presented first since to most monetary economists silver has ceased to perform any monetary function, and the subject can be regarded therefore as a sort of cadaver which can be dissected without pain to anyone except the silver producer.

Following the Franco-Prussian War, in 1870, a movement began in Europe to demonetize silver in favor of gold. In 1873 the metal was demonetized in the United States. Prior thereto, except in the British Isles, silver was the principal money of Europe and almost the sole money of Asia and the Southern Hemisphere..

The three functions of money, as are known, are a store of wealth, a medium of payments, and a standard of value. The demonetization which took place was to declare only gold to be an official standard of value for contracts and payments. Silver continued to circulate as a medium of exchange, however, but in a subsidiary capacity, and in a steadily restricted sphere as paper money took the place of gold and larger demoninations of silver coin.

Beginning in 1900, in India, the process of demonetizing silver was extended to the European colonial dependencies in Asia, and eventually was adopted by all independent sovereignties in Asia and Latin America.

Consequences of Demonetization

The natural consequence of these official actions was, for the mines to enhance the value of gold relative to silver, and to pour into the market a flood of demonetized silver coinage. The price of silver steadily dropped, falling from its statutory value of $1.29 an oz to a low of 25 cents an oz during the climatic period of the movement in 1932, and silver production, as we have already noted, steadily shrunk.

To break the shock of these events and to relieve the mining industry, Congress passed various pieces of silver purchase legislation, the most significant being the Silver Purchase Act of 1934. These Acts have been denounced as the work of a powerful and insidious silver lobby, and the framework of silver legislation has been repeatedly assaulted by the silver users' interest. It is, incidentally, an increasingly influential interest because of the widening attraction of silver to industry. The most recent bill is H. R. 11744, introduced into Congress April 13, 1960 by Congressman Hiestand of California, which would repeal all silver purchase legislation and liquidate the Treasury's silver reserve.

Meantime, the natural forces of demand have created a situation by which currently the silver users rather than the producers are on the benefit-receiving end. Under the latest silver purchase legislation, that of 1946, the Treasury was directed to purchase newly mined domestic silver at 90½ cents an ounce, and was

given discretionary authority to sell the seigniorage silver (silver remaining after monetizing purchased silver at its statutory value of $1.29 an ounce) at not less than cost.

The effect of this legislation was some relief to domestic silver producers for about a dozen years, during which the world price was below the Treasury buying price. The total subsidy to the producers, based upon the 376,000,000 oz acquired to date and computed at the meximum market differential, was of the order of $75,000,000, an average of around $6,000,000 a year. Since this silver was monetized at $1.29 an ounce, however, the transaction represented a net gain to the Treasury of around 39 cents an ounce, or a total of $150 million, or about double the subsidy to the producers.

Treasury Sales of Silver

Meantime, market forces were causing a steady improvement in the market, thereby reducing the effective benefit of the subsidy. In 1956, the open market price crossed the Treasury buying price. The Treasury has interpreted as a mandate its discretionary authority to sell to industry; it has, accordingly, been selling silver freely at 91 cents an ounce f.o.b., San Francisco. The effect of Treasury sales is thus to put a ceiling on silver prices, and, in effect, to subsidize silver users.

Silver producers have been objecting to these Treasury sales and the basis of their objection, apart from a natural dislike of having to market their product in competition with a powerful governmental bureaucracy, is on two sound but largely misunderstood considerations of national policy.

Continuing Monetary Importance of Silver

Briefly, these relate to the monetary functions of a medium of exchange, and a store of value. Silver that was kicked out the back door by the money managers has been coming back in through the front door.

Silver is more important today as a medium of payments than ever in its history This is due in large part to the use of coin-vending machines, which dispense everything from chewing gum to life insurance policies and which is becoming an increasingly popular merchandising technique. The consequence has been an expanding demand for small coinage. For some years the U. S. mints have been putting into silver coinage more silver than our domestic mines produce. Coinage is taking over 40,000,000 oz annually against a normal domestic production of around 35,000,000 oz annually.

A significant consequence of this demand for coinage has been a gradual reduction of Treasury free silver stocks. From a peak 1.36 billion oz maximum in 1942 they are today less than 125,000,000 oz. At current coinage rates this supply will be exhausted within three years. In the view of the silver producers, the Treasury should cease its sales of silver to industry at less than the statutory price and conserve its dwindling stock for its own coinage requirements.

It is significant that other countries are gradually resuming coinage of silver

after a long hiatus during which such undesirable substitutes such as cupro-nickel, aluminium, and paper, were made to serve. Governments are rediscovering that only the precious metals are acceptable as money, that only gold and silver appropriately reflect the dignity of sovereignty.

Silver as Strategic Reserve

One other aspect of silver illustrates the profound realities of money which monetary theoreticians often overlook. This is the function of a store of value. When European colonial powers deprived their Asiatic dependencies of good intrinsic silver money, they sowed the seeds of economic insecurity. These have sprouted and become a jungle of political unrest and rebellion and social convulsion.

In those lands where savings institutions are largely unknown and generally mistrusted, the accumulation of capital, and the rise from servitude to independence, began with the possession of a piece of tangible wealth -- a sum, say, that can be saved from a day's earnings. In the old days, this piece of tangible wealth was a silver coin of high purity.

When silver coinage ceased to circulate and in its place the cobbler, the peddler, and the workman were required to accept for their labor, or their wares, a piece of debased silver, or worse yet, a piece of dirty and continually depreciating paper, a latent unrest was aroused. The evidence of this became evident in two world wars. Dissatisfaction with the official money became so great that the governments were compelled to yield to public demand and make silver again available in the market. During the first world war, over 200,000,000 oz were shipped to Asia for this purpose, and in World War II, over 400,000,000 oz.

Where did this silver come from? From the U. S. Treasury, of course, where a convenient supply existed, thanks to earlier silver purchase legislation. As stated above, of the visible supply of silver, approximating four billion oz some $3\frac{1}{4}$ billion oz are in the U. S. monetary system. A few million ounces are presently to be found in the vaults of the Bank of England and the Japanese Government, but the only considerable quantity of silver that can be mobilized today is the U. S. Treasury stock of 1.9 billion oz.

Should we become involved in war again, the necessity would certainly arise as it did in two previous world wars of buying the raw materials of Asia and Africa. The burden of stabilizing the economies of these lands and of maintaining political tranquility would no doubt devolve upon the U. S. It is against such an eventuality that the silver reserve of the United States, being the only substantial reserve in the world, becomes of incalculable importance.

WESTERN GOVERNORS' CONFERENCE

May 14-17, 1961
Hotel Utah
Salt Lake City, Utah

STATEMENT ON SILVER

About the only change that has taken place in the silver situation since your Mining Advisory Council's last report to this Conference has been an acceleration and accentuation of the trends previously noted.

Free-world consumption is increasing steadily and in some countries at an almost spectacular rate. Japan, for example, registered a 60 per cent gain in industrial usage of silver last year over 1959. In West Germany the increase was 20 per cent.

Production meanwhile has been just about holding its own, or perhaps slipping slightly. The result has been an ever-widening margin of deficiency of production.

Last year, for example, free-world consumption exceeded production by 116.8 million ounces and in 1959 by 115 million ounces. This compares with an average deficiency of 49-50 million ounces in the 10-year period of the 1950's.

In this country there hasn't been any comparable increase in consumption during this period because we've been at a relatively high level, for both industrial and coinage purposes, ever since World War II. Production, however, has shown a slight decline, leaving a somewhat larger deficiency each year to be obtained from sources other than new production. The deficiency last year was 107 million ounces in the United States as compared with a 10-year average of about 102 million ounces annually.

The trend in depletion of treasury stocks of so-called "free" silver has also continued at an accelerated rate these past two years. Total supply as of today is reported to be less than 95 million ounces. This represents a decline of more than 25 million ounces since the first of this year. At this rate this supply will be completely exhausted before mid-1962.

In other words, the imbalance in silver supply and demand has become progressively acute during the past two years. Apparently this is what has been happening. The mounting world demand and resultant supply pinch has tended to force world prices up somewhat. Domestic consumers have, therefore, relied more heavily on treasury stocks of disposable "free" silver, which under treasury policy are available at the fixed price of 91 cents an ounce. These sales to industry during the past two years have totaled 56,000,000 ounces which represents a ten-fold increase over the previous two years. At the same time purchases of newly-mined silver by the Treasury from domestic producers have dwindled to a very nominal amount -- only about half a million ounces last year. And exports have spurted upward sharply. This means that the bargain-

priced treasury stocks are freeing at least part of the normal domestic supply to the higher-price markets abroad. In other words, although Treasury stocks are legally available only to domestic consumers, these Treasury sales are indirectly contributing to the world market supply. It has been the consistent position of your Mining Advisory Council that these sales are not in the best interests of the American public for the following reasons:

1. They dissipate a stock of silver that will be needed within a very few years for coinage purposes.

2. They place silver consumers in a preferred status by providing raw materials at an artificially low price.

3. They discriminate against domestic silver producers by denying them the benefits of the price increase which is normal in such a situation of tight supply.

4. By preventing the upward price adjustment dictated by the supply pinch they eliminate the incentive that would stimulate the exploration for and development of the additional sources of production that are essential to correct the deficiency.

We continue to hold this view and to recommend that Treasury sales of silver at less than the monetary price of $1.29 per ounce be discontinued in order to permit world prices to rise to a level that will assure the increased production necessary to meet growing industrial and coinage demands.

If there are any questions, I shall be glad to try to answer them in the discussion which follows.

Remarks by:

A. J. TESKE, Secretary,
Idaho Mining Association, and
Chairman, Western Governors' Mining Advisory Council
May 15, 1961