

Gold and Causes of Its Decreased Production

Paper Contributed by Mr. H. N. Lawrie, Chairman of the Oregon Bureau of Mines, before recent Mining Convention held at Vancouver.

We all know that the economic situation has been changing rapidly from time to time and that it is difficult to account for changes which are momentous and have a serious bearing upon the solution of our problems of the present and immediate future. To better analyze the situation I have

prepared some gold production charts. The year 1915 is the high point of the production of the world's gold which was \$469,000,000. The decline has been very rapid since. I will give you the percentages of decline in the past three years with respect to the production of 1915. The total decline in the world's production is 20 per cent. The decline for South Africa was only 6.4 per cent. The fact that the decline was so much less than the decline of the world is evidence that South Africa was more remotely situated

GOLD PRODUCTION OF THE WORLD—CALENDAR YEARS 1912-1918—GRAPHIC CHART No. 1.

	1912	1913	1914	1915	1916	1917	1918	Decline from 1915
South Africa	\$188,293,100	\$181,885,500	\$173,560,000	\$188,035,156	\$192,182,900	\$186,503,400	\$176,000,000	-6.4 %
Australia	54,509,400	53,113,200	46,710,200	48,988,177	40,475,800	35,945,500	26,700,000	-45.5 %
Canada	12,648,800	16,598,900	15,925,000	18,977,901	19,235,000	15,200,000	14,000,000	-26.3 %
British India	11,055,700	12,178,000	11,378,400	11,522,457	11,206,500	10,756,800	10,000,000	-13.2 %
Rhodesia	14,226,900	14,274,700	17,423,100	18,915,324	19,232,165	16,952,462	16,000,000	-15.8 %
Other Colonies	9,545,600	11,874,800	11,782,000	12,387,163	11,620,705	10,442,600	10,000,000	-19.3 %
British Total	\$290,279,500	\$289,921,100	\$276,996,700	\$298,824,178	\$293,953,070	\$275,800,762	\$252,700,000	-15.4 %
United States	\$93,451,500	\$88,884,400	\$94,531,800	\$101,035,700	\$92,590,300	\$83,750,700	\$68,500,000	-32.2 %
Russia	\$22,199,000	\$26,507,800	\$28,587,000	\$26,322,746	\$22,500,000	\$18,000,000	\$10,000,000	-62.0 %
So. & Cent. Am.	14,956,100	13,020,700	14,775,700	17,135,841	18,097,224	17,543,424	18,000,000	+5.3 %
Mexico	24,500,000	19,308,800	19,308,800	6,559,275	7,690,700	9,000,000	10,000,000	+52.4 %
All Others	20,750,000	22,298,300	21,476,600	18,847,178	19,345,206	19,495,314	18,100,000	-4.2 %
Total Russian, etc.	\$82,405,100	\$81,135,600	\$84,148,100	\$68,865,040	\$67,633,130	\$64,038,738	\$56,100,000	18.5 %
World Total	\$466,136,100	\$459,941,100	\$455,676,600	\$468,724,918	\$454,176,500	\$423,590,200	\$377,300,000	19.7 %

Statistics 1912-1917 joint records of the U. S. Mint and U.S.G.S. Estimate 1918 Eng. and Min. Journal

GOLD PRODUCTION OF THE UNITED STATES—CALENDAR YEARS 1912-1918—GRAPHIC CHART No. 2.

	1912	1913	1914	1915	1916	1917	1918	Decline from 1915
California	\$20,008,000	\$20,241,300	\$21,251,900	\$22,547,400	\$22,110,300	\$20,929,400	\$17,207,000	-23.7 %
Colorado	18,741,200	18,109,700	19,902,400	22,530,800	19,009,100	15,974,500	12,853,500	-43.0 %
Alaska	17,198,600	15,201,300	16,547,200	16,710,000	16,242,000	14,671,400	9,108,500	-45.5 %
Nevada	13,375,700	11,977,400	11,536,200	11,883,700	8,428,200	6,932,500	6,662,000	-44.0 %
South Dakota	7,823,700	7,214,200	7,334,000	7,403,500	7,512,200	7,372,900	6,786,700	-8.3 %
Arizona	3,785,400	4,101,400	4,568,900	4,555,900	4,378,400	5,130,600	5,760,200	+26.4 %
Montana	3,707,900	3,320,900	4,143,600	4,978,300	4,575,400	3,673,200	3,170,600	-36.3 %
All Others	8,611,000	8,718,200	9,247,600	10,426,100	10,060,500	9,016,200	6,945,000	-33.4 %
Total United States	\$93,451,500	\$88,884,400	\$94,531,800	\$101,035,700	\$92,316,100	\$83,750,700	\$68,493,500	-32.2 %

Statistics 1912-1918 records U.S.G.S.

INFLUENCE OF THE WAR ON COST OF PRODUCING THE DOMESTIC GOLD OUNCE—TYPE EXAMPLE—Graphic Chart No. 3.

Month	Year	Monthly Output Tons	Gold Recovered Per Ton	Gold Recovered Ounces	Total Cost Per ton	Total Cost Per Month	Total Cost Per Gold Oz.	Profit or Loss for Month	Profit or Loss per Ounce
December	1912	3,000	\$12.00	1,800	\$7.00	\$21,000	\$11.70	\$15,000.00	\$8.30
"	1913	3,000	11.00	1,650	7.50	22,500	13.60	10,500.00	6.40
"	1914	3,000	10.00	1,500	8.50	24,000	16.00	6,000.00	4.00
"	1915	6,000	9.00	2,700	7.00	42,000	15.60	12,000.00	4.40
"	1916	6,000	8.50	2,550	7.50	45,000	17.60	6,000.00	2.40
"	1917	6,000	8.50	2,550	8.00	48,000	18.80	3,000.00	1.20
June	1918	6,000	8.00	2,400	10.00	60,000	25.00	12,000.00	5.00
December	1918	6,000	8.00	2,400	12.00	72,000	30.00	24,000.00	10.00

The above data represents a type example of a medium-grade gold-quartz mine. It takes into consideration the economic factors over this period of time. The whole numbers are used to simplify the presentation, and the price of \$20 for the gold-ounce also simplifies the calculations. Many properties in 1914, working on a narrow margin of profit, were forced to enlarge their scale of operations as did this one. At this time wages were reasonable, prices for supplies had not passed the economic limit, and these facts combined account largely for the increase in the gold output of the United States which was recorded in 1915.

GOLD IMPORTS AND EXPORTS OF THE UNITED STATES, FISCAL YEARS 1914-1918—GRAPHIC CHART No. 4.

Year's End June 30	Exports	Imports	Gold Balance Against U. S.	Gold Balance In Favor U.S.	Excess Imports Over Exports
1913-14	\$112,038,529	\$66,538,659	\$45,499,870	.....	-40.6 %
1914-15	\$146,224,148	\$171,568,755	.....	\$25,344,607	17.3 %
1915-16	90,249,543	494,009,301	.....	403,759,753	447.3 %
1916-17	291,921,225	977,176,026	.....	685,254,801	234.7 %
Total three war years—					
1914-17	\$528,394,921	\$1,642,754,082	.....	\$1,114,359,161	210.0 %
1917-18	190,852,224	124,413,483	\$66,438,741	.....	-34.8 %
Total four war years—					
1914-18	\$719,247,145	\$1,767,167,565	\$66,438,741	\$1,047,920,420	145.7 %

United States Gold Reserve (Gold coin and bullion) in the Treasury on June 29, 1918, was \$2,478,221,424, of which \$1,047,920,420, or 42.3% represents the gold balance in favor of the United States for the four war years, ending June 29, 1918. Statistics for 1914-17 are from the official records of the Department of Commerce; those for 1918 are reported by the Director of the Mint.

Statistics compiled and computed by H. N. Lawrie.