

Mineral Industry Surveys

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U.S. PRODUCTION OF SELECTED MINERAL COMMODITIES IN THE FOURTH QUARTER 2022

Previously, U.S. mine and plant production data for 14 selected mineral commodities were provided on a monthly (or quarterly) basis but beginning in 2022, production data for 2 additional mineral commodities, palladium and platinum, were also being provided by the U.S. Geological Survey to the Board of Governors, Federal Reserve System (FRS), for use in preparing its index of industrial production and the related capacity indexes and capacity utilization rates. These measures cover manufacturing, mining, and electric and gas utilities, and they are among the key economic indicators monitored by the FRS for guidance in determining national monetary policy.

Construction Materials

The combined production of construction-related materials (cement, construction sand and gravel, crushed stone, and gypsum) in the fourth quarter of 2022 decreased by 20% compared with that in the third quarter of 2022 following the typical seasonal trend (fig. 1, tables 1, 2). The combined production of construction-related materials during 2022 was slightly less compared with production in 2021; production of cement, crushed stone, and gypsum were unchanged and construction sand and gravel was 5% lower (fig. 1, table 1).

Base Metals

Production of base metals decreased, especially zinc which decreased by 21% in the fourth quarter of 2022 compared with that in the third quarter of 2022. (fig. 2, table 1). Comparing full-year 2022 with full-year 2021, production increased for zinc (8%) and secondary aluminum (3%), copper production was unchanged, and production decreased for iron ore and lead (7% each) in 2022 compared with that in 2021 (fig. 2, tables 1, 2).

Precious Metals

During the fourth quarter of 2022, gold production increased by 4%, platinum and palladium production were each unchanged, and silver production decreased by 3%, compared with production in the third quarter of 2022. Gold production in 2022 was 10% lower and silver production was slightly lower compared with production in 2021 (fig. 3, table 1). Palladium and platinum production were 30% and 28% lower, respectively, in 2022 compared with that in 2021 (tables 1,2).

Other Mineral Materials

Molybdenum production was 3% higher in the fourth quarter of 2022 than that in the third quarter of 2022 and was 9% lower in 2022 compared with that in 2021. Phosphate rock production was an estimated 24% lower in the fourth quarter of 2022 than that in the third quarter of 2022 and was 10% lower in 2022 compared with that in 2021. Soda ash production was 10% higher in the fourth quarter of 2022 compared with that in the third quarter of 2022 and was unchanged in 2022 compared with that in 2021 (tables 1, 2).

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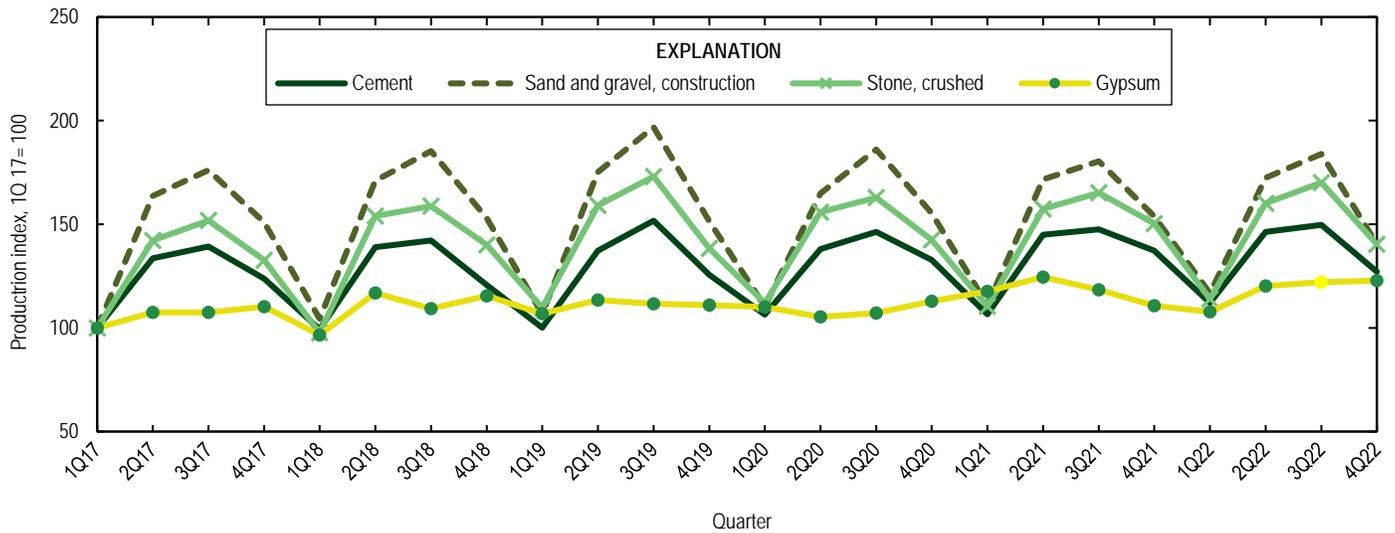


Figure 1. U.S. production of selected construction-related mineral commodities from the first quarter of 2017 through the fourth quarter of 2022, indexed to the first quarter of 2017.

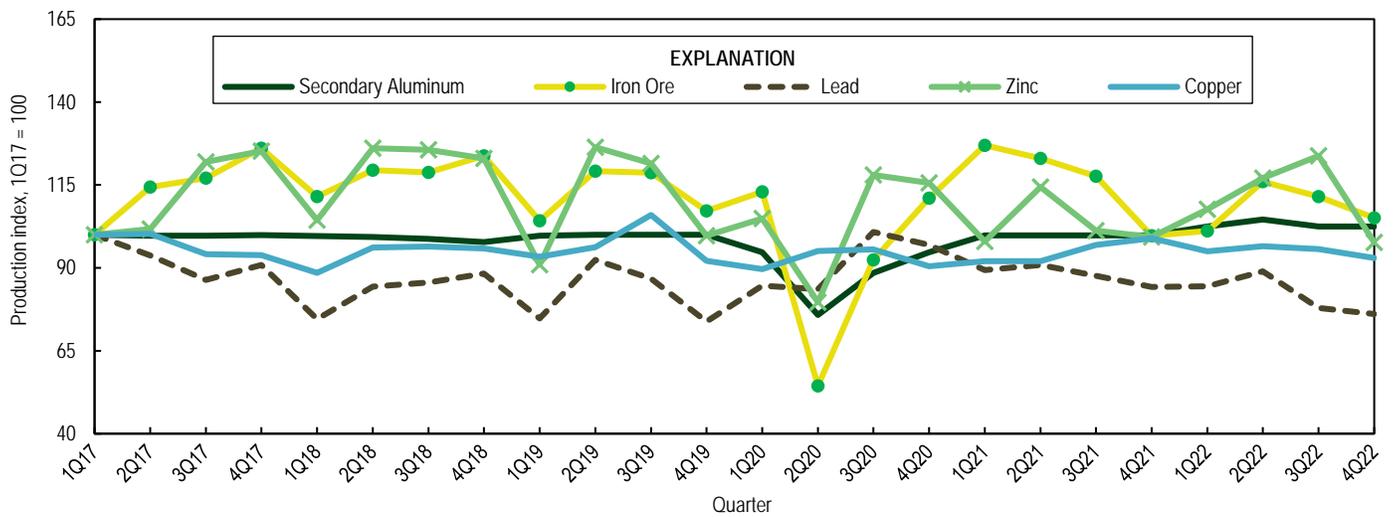


Figure 2. U.S. production of selected base metals from the first quarter of 2017 through the fourth quarter of 2022, indexed to the first quarter of 2017.

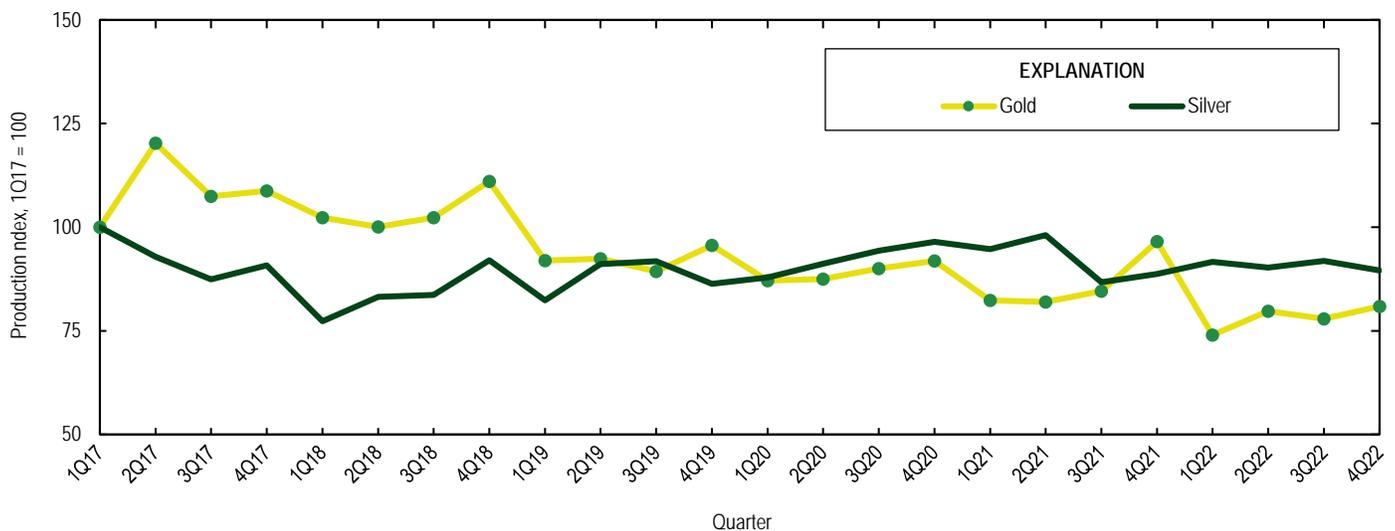


Figure 3. U.S. mine production of gold and silver from the first quarter of 2017 through the fourth quarter of 2022, indexed to the first quarter of 2017.

TABLE 1
PRODUCTION TRENDS FOR SELECTED MINERAL COMMODITIES¹

Mineral commodity	Percent change, 4th quarter 2022 vs. 3d quarter 2022	Percent change, YTD 2022 vs. YTD 2021
Aluminum (secondary)	(2)	3
Cement ^c	-15	(2)
Copper	-3	(2)
Gold	4	-10
Gypsum	1	(2)
Iron ore	-6	-7
Lead	-2	-7
Molybdenum	3	-9
Palladium	(2)	-30
Phosphate rock ^c	-24	-9
Platinum	(2)	-28
Sand and gravel, construction	-24	-1
Silver	-3	-1
Soda ash	10	(2)
Stone, crushed	-17	(2)
Zinc	-21	8

^cEstimated. -- Zero.

¹Based on data available through March 22, 2023.

²Less than ½ unit.

TABLE 2
U.S. PRODUCTION OF SELECTED MINERAL COMMODITIES, BY QUARTER^{1,2}

Commodity		2021					2022				1st quarter– 4th quarter	
		1st quarter	2d quarter	3d quarter	4th quarter	1st quarter– 4th quarter	1st quarter	2d quarter	3d quarter	4th quarter	2021	2022
Aluminum ^{c,3}	thousand metric tons	209	209	209	209	837	215	219	215	215	837	864
Cement ⁴	million metric tons	18.1	24.6 ^e	25.0 ^e	23.3 ^e	90.9 ^e	19.0 ^e	24.8 ^e	25.4 ^e	21.5 ^e	90.9 ^e	90.7 ^e
Copper ⁵	thousand metric tons	298	298	314	321	1,230	308	313 ^f	310 ^f	302	1,230	1,230
Gold ⁵	metric tons	44.7	44.5	45.9	52.4	187	40.1	43.3	42.3	43.9	187	170
Gypsum ⁶	million metric tons	4.6	4.9	4.7	4.4	18.6	4.3	4.7	4.8	4.9	18.6	18.7
Iron ore ⁷	do.	13.2	12.8	12.3	10.4	48.7	10.5	12.1	11.6	10.9	48.7	45.2
Lead ⁵	thousand metric tons	72.6	73.8	71.2	68.5	286	68.6	72.3	63.4 ^f	61.9	286	266
Molybdenum ⁵	do.	13.1	9.4	9.6	9.2	41.1	9.1	9.6	9.3	9.6	41.1	37.6
Palladium ⁵	metric tons	3.7	3.5	3.5	3.1	13.7	2.9	2.6	2.0	2.0	13.7	9.6
Phosphate rock, marketable ⁸	million metric tons	5.3	5.6	5.8	5.1	21.6	4.6	5.3 ^f	5.5 ^f	4.2 ^e	21.6 ^e	19.6 ^e
Platinum ⁵	metric tons	1.1	1.0	1.0	0.9	4.0	0.9	0.8	0.6	0.6	4.0	2.9
Sand and gravel, construction ⁹	million metric tons	169	262	276 ^f	235	942 ^f	178	263 ^f	281 ^f	214	942 ^f	937
Silver ⁷	metric tons	263	273	241	247	1,020	255	251	255 ^f	249	1,020	1,010
Soda ash ⁷	million metric tons	2.7	2.8	2.8	2.9	11,300	2.8	2.7	2.7	3.0	11.3	11.3
Stone, crushed ⁹	do.	284	405	425	386 ^f	1,500	293	412	437	361	1,500	1,500
Zinc ⁵	thousand metric tons	163	191	169	166	688	180	195	206 ^f	163	688	744

^eEstimated. ^fRevised. do. Ditto.

¹Based on data available through March 22, 2023.

²Data are rounded to no more than three significant digits; may not add to totals shown.

³Aluminum alloys produced at secondary smelters in the United States, less primary aluminum consumed, primary silicon consumed, and other alloying ingredients consumed.

⁴Shipments of domestically produced portland and blended cement, including cement made from imported clinker, as a proxy for actual domestic cement production.

⁵Recoverable mine production.

⁶Calcined production.

⁷Mine production.

⁸Marketable mine production. First to fourth quarter total may not add to quarterly data owing to annual adjustments that are not broken out by quarter.

⁹Sold or used; quarterly survey based on sample survey. Includes all 50 States. Data may not add to totals shown because of independent rounding and differences between projected totals by States and by divisions.