

# Silver Supply vs. Demand – The Basics

Silver is a unique commodity in that its demand is sourced from both its investment appeal and its use for industrial purposes. Similar to gold, silver's investment appeal lies in its centuries-long track record as a global store of value. As a result the silver price tends to have a relatively high correlation to gold with investor interest driven by its 'safe haven' status particularly as it relates to geopolitical uncertainty, currency devaluation by central banks and as a hedge against inflation. On the industrial side, silver's unique qualities, such as its remarkably high conductivity and ductility, make it an essential component in electric vehicles, solar energy and energy storage. The shift to a greener future is expected to underpin strong growth in industrial demand for silver for decades to come.

This document provides a high-level summary of the key drivers of the supply and demand equation for silver. Statistics have largely been sourced from the Silver Institute's [World Silver Survey 2022](#).

## Silver Supply

Mine supply typically makes up 80 – 85% of the total silver supply and scrap/recycling effectively makes up the rest. Over the last decade total silver supply from both sources has been relatively flat (see graph below). Silver from mine production hit a peak in 2016 and since then production has fallen by roughly 10%.

### Silver Supply



Primary silver mines make up only about 28% of total silver production. The remainder comes from mines where silver is produced as a by-product, such as copper, lead/zinc and gold mines. The top silver producing countries include Mexico, China and Peru as summarized in the table below.

## Top Silver Producing Countries

<i>(Million ounces)</i>	<b>2021</b>	<b>% of Total</b>
Mexico	197	24%
China	113	14%
Peru	108	13%
Australia	43	5%
Poland	42	5%
Other	320	39%
<b>Global Total</b>	<b>823</b>	<b>100%</b>

Mexican-based Fresnillo plc was the world's leading silver producer in 2021 producing 50 Moz of silver that year. Other large silver producers include KGHM Polska Miedz, Glencore and Newmont, however for these companies silver is largely produced as a by-product. Of the ten largest silver producing mines (see table below), six are primary silver mines, all of which are underground operations.

## Top Ten Largest Silver Producing Mines

Rank	Mine	Country	Owner	Ag Production (Moz)		Primary Metal	Open Pit / UG
				2020	2021		
1	Polska Miedz	Poland	KGHM	39.2	41.9	Copper	UG
2	Peñasquito	Mexico	Newmont	30.9	34.2	Gold	Open Pit
3	Dukat	Russia	Polymetal	18.2	18.8	Silver	UG
4	Antamina	Peru	Glencore/BHP/Teck	16.4	18.2	Copper	Open Pit
5	Sindesar Khurd	India	Hindustan Zinc	17.3	17.7	Silver	UG
6	San Julian	Mexico	Fresnillo	13.3	16.8	Silver	UG
7	Cannington	Australia	South32	11.6	14.4	Silver	UG
8	Saucito	Mexico	Fresnillo	15.5	12.4	Silver	UG
9	San Cristobal	Bolivia	Sumitomo	5.4	12.1	Lead/Zinc	Open Pit
10	Fresnillo	Mexico	Fresnillo	13.1	12.0	Silver	UG

## Silver Demand

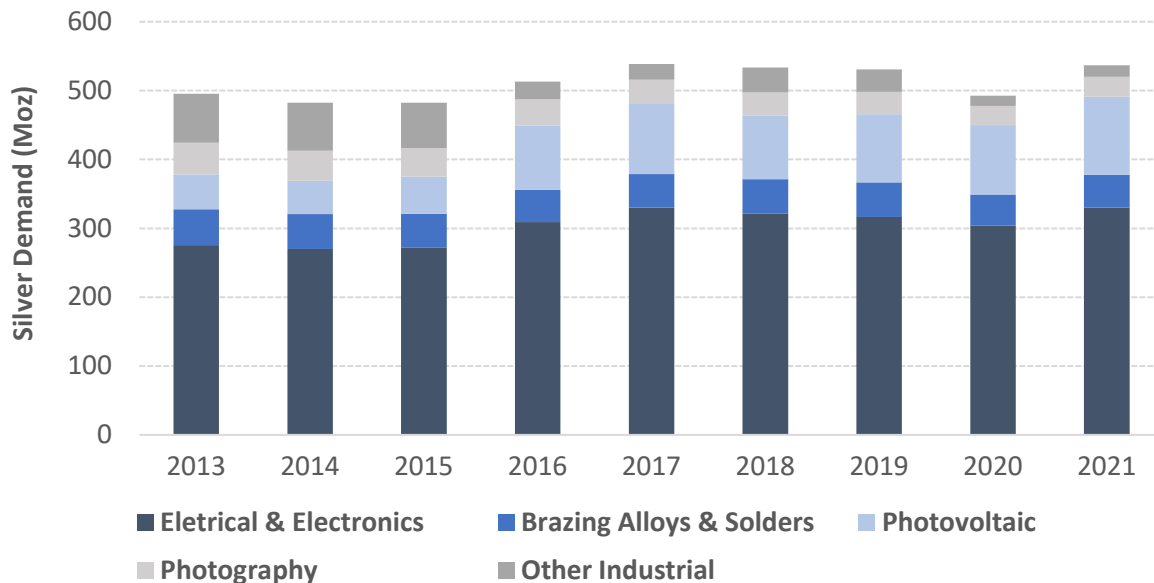
Demand for silver falls into two general categories: industrial use and investment/jewelry. The demand is typically split 50/50 between these two categories. Further details on each of these two categories can be found below.

The World Silver Survey 2022 reports that total demand for silver rose by 19% in 2021. Demand across all categories grew with the highest demand being for silver bars and coins, followed by industrial demand. Reasons for the latter include the revival of businesses and industrial operations, investment in green technology such as photovoltaics, and a boom in consumer electronics fueled by an increase in remote work.

## Industrial & Photography

- **Photovoltaic technology** (~20% of total industrial demand): Photovoltaics is the conversion of light into electricity, which is the technology used in solar panels. The most common solar panels are crystalline silicon photovoltaic cells, and 90% of those use silver to conduct electrons into electrical currents. Demand for photovoltaic technology has increased over 100% since 2015 and this demand is expected to continue to grow rapidly with the shift to renewable energy.
- **Electrical & electronics** (~60% of total industrial demand): Silver has the highest electrical conductivity of any metal, which makes it highly sought after for semiconductors, circuit boards, touch screens, RFID tags, 5G technology, smart textiles and much more.
- **Brazing alloys & soldering** (~10% of total industrial demand): Silver is often used to join materials together because it creates strong, smooth joints that are resistant to corrosion. It is often used to join metal tubes and fittings for infrastructure projects and vehicles (both internal combustion and electric).
- **Photography** (5% of total industrial demand): Traditional photography has long relied on silver for film and photographic paper. Although silver film is still used in traditional photography methods and X-rays, the rise of digital photography has drastically decreased the demand for silver for photographic purposes.

## Industrial Demand Breakdown



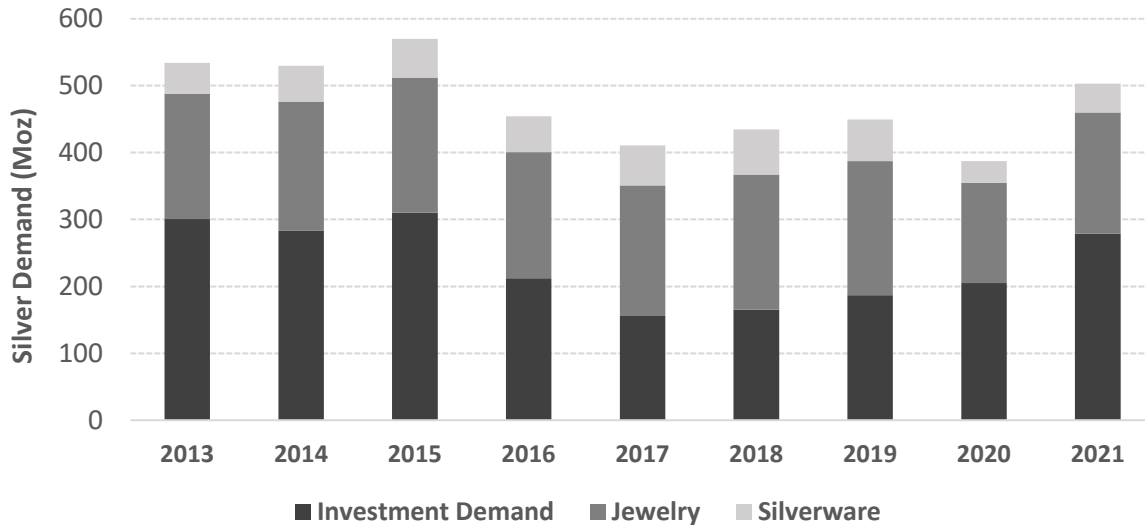
## Investment & Jewelry

- **Bullion trade** (~50% of investment/jewelry demand): Silver bullion refers to high-quality physical silver that is often kept in bars, coins or ingots.
- **Jewelry fabrication** (~40% of investment/jewelry demand): The top three countries for jewelry fabrication are typically India (30%), Thailand (15%) and China (10%). Demand in India is driven

by weddings & social events. The standard for silver jewelry is sterling silver, which consists of 92.5% silver and the remainder a base metal such as copper.

- **Silverware** (~10% of investment/jewelry demand): Like jewelry, silverware is typically made of sterling silver. Silverware is highly sought because silver is minimally reactive, so it does not react with water and oxygen at normal temperatures.

### Investment & Jewelry Demand Breakdown



## The Outlook for Silver

The supply side for silver is expected to be relatively flat with mine production forecast to remain around 800 Moz of silver over the medium to long term. Most of the largest silver producing mines are underground operations where typically it is challenging to increase mining rates. There are also relatively few large undeveloped silver deposits globally.

Meanwhile, demand for silver is expected to continue to grow. Despite market volatility due to various factors such as the Russia-Ukraine conflict, rising interest rates and inflation, the outlook for silver is promising. The growth in green energy initiatives could lead to long-term sustainable demand for silver. In addition, post-pandemic conditions are likely to drive demand for industrial fabrication, consumer goods, jewelry and silverware.

The Silver Institute reports that global demand for silver is forecast to rise by 5% in 2022 and that it will continue to see steady gains and record highs in the years to come. Industrial demand is expected to rise to 6% in 2022, which will be a new record high. Jewelry fabrication is forecast to rise by 11% and physical investment is expected to remain relatively flat. Silver investment is expected to continue its recovery in 2022.

Overall, many experts believe that the combination of silver supply constraints and growing, sustainable global demand will have a positive effect on the silver market and long-term pricing trends.